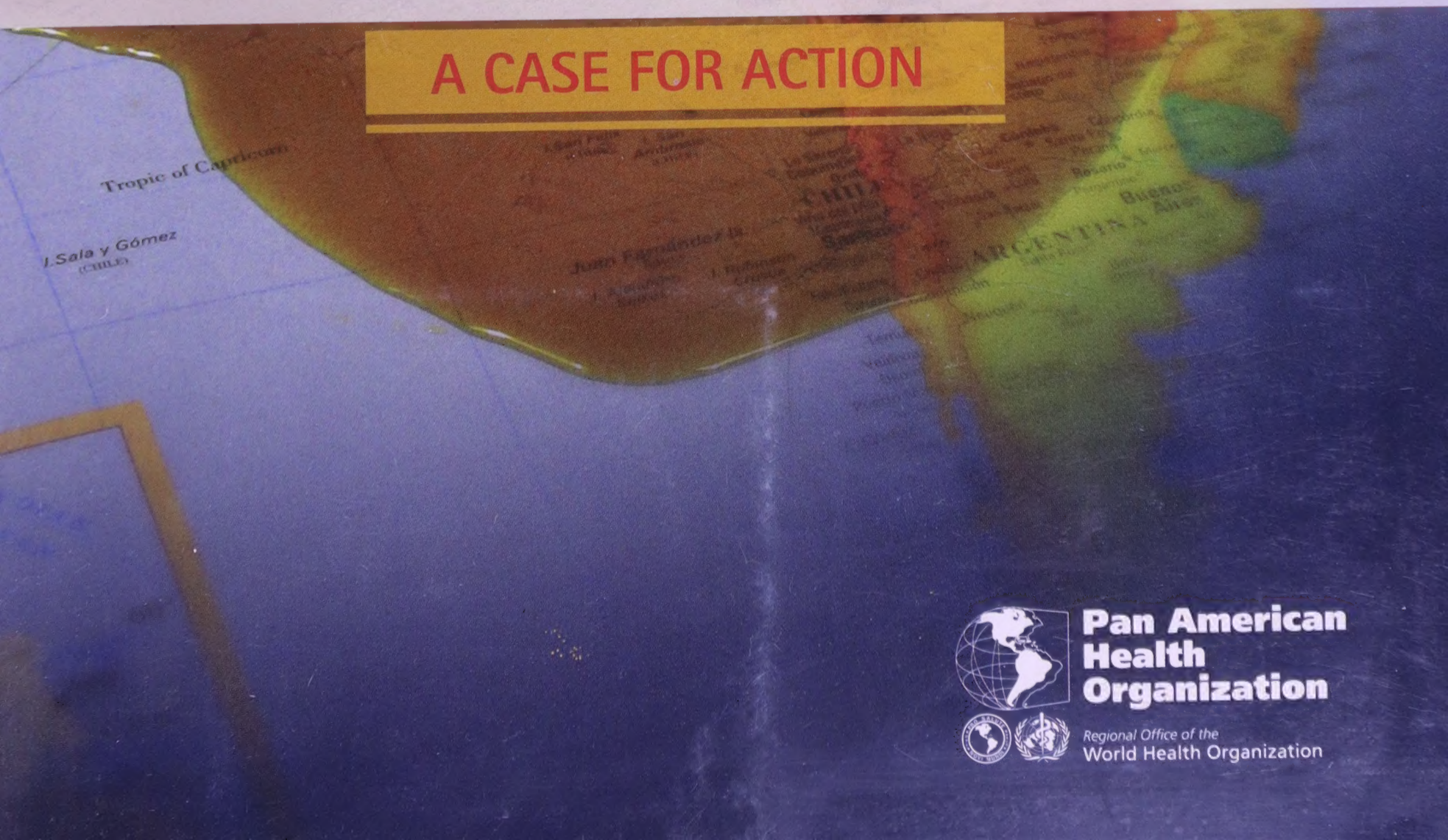




Alcohol and Public Health in the Americas

A CASE FOR ACTION



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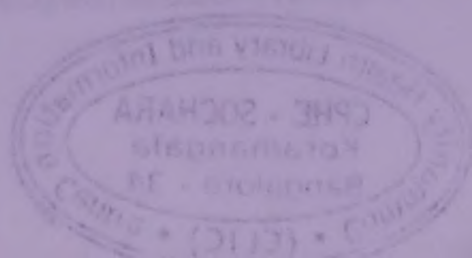
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Alcohol and Public Health in the Americas

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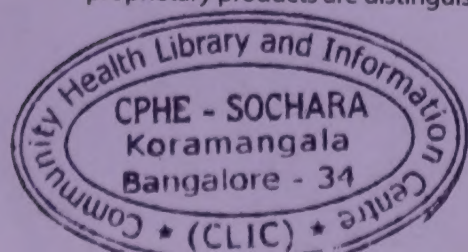
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DISCLAIMER

The report contains the views of the author and does not necessarily represent the decisions or the stated policy of the Pan American Health Organization.

INTRODUCTION

Making the Case for Alcohol as a Public Health Threat in the Region

There are five compelling reasons to make alcohol an urgent public health priority in the Americas. These are:

The Americas surpass global average statistics for:

1. alcohol related deaths,
2. alcohol consumption,
3. alcohol drinking patterns,
4. alcohol use disorders and
5. alcohol is the leading risk factor for the burden of disease in the region.

The purpose of this document is to explain the need for making alcohol a top public health priority in the region and the need for national and regional action. Current evidence-based research shows that alcohol consumption and drinking patterns in the Americas are at damaging levels, with the region surpassing global averages for many alcohol related problems. Extensive research has demonstrated the effectiveness of numerous public health policies which have been evaluated in different countries and cultures.

Chapter 1 of this paper provides a snapshot of alcohol related harm and current trends in the Region.

Chapter 2 expands on evidence-based research associating alcohol with health and social problems, including deaths, diseases, injuries and high risk groups.

Chapter 3 outlines the various alcohol policies in the region and their effectiveness.

Chapter 4 lists potential barriers that could hinder successful implementation of alcohol policies in the Region.

Chapter 5 gives 10 recommendations for action with concrete, evidence based strategies and interventions at regional, national and/or local level.

Chapter 6 gives an overview of existing technical areas of work at PAHO which deal with alcohol related issues, indicating that alcohol influences nearly every aspect of the Organization's work.

Snapshot: Alcohol related harm and trends in the Region

Death: It is estimated that in the year 2002, alcohol lead to the death of one person every two minutes in the Region [Rehm et al 2006 (an interpretation of 323,000 deaths in 2002)]. An estimated 5.4% of all deaths in the Americas in 2002 were attributable to alcohol, compared to the World figure of 3.7% (Rehm et al 2006), that is, 68% higher than the global average.

Disease: Alcohol consumption is related to over 60 health conditions (Rehm and Monteiro 2005), ranging from those occurring as a result of excessive alcohol consumption during pregnancy and affecting the fetus, to intentional and non intentional injuries, cancers, cardiovascular diseases, liver disease, neuropsychiatric conditions, including alcohol dependence. Alcohol is a psychoactive substance which affects the brain and most organs in the body. Alcohol drinking affects consumers and others surrounding them, being related to domestic violence, road traffic fatalities (passengers and pedestrians) and interpersonal violence. Harmful alcohol consumption is also related to social and economic problems, to individuals, families and communities.

Disability Adjusted Life Years (DALYs): Alcohol was responsible for nearly 10.0% of all Disability Adjusted Life Years (DALY) lost in the region in 2002 compared to the global figure of 4.4% (Rehm et al 2006). In the year 2000, the WHO comparative analysis of 26 different risk factors and their impact on the burden of disease showed that alcohol was the *leading risk factor* in the region of the Americas (Rehm and Monteiro 2005), while globally, alcohol was in fourth place.

Road traffic injuries: Between 20-50% of road traffic fatalities in the Region are alcohol related (WHO 2004b).

Injury: 50.5% of alcohol-attributable deaths in the Americas in 2002 were due to injuries (intentional and unintentional) (Rehm et al 2006).

Mental Health: A recent World Mental Health survey showed that the Americas showed higher rates of alcohol use disorders than those for any region of the world (World Mental Health Survey Consortium 2004).

Economic cost: In the USA, the estimated cost of alcohol was almost US\$ 185 billion in 1998, an increase of 25% in 6 years (Harwood 2000), while in Canada over Can\$ 2 billion were spent on health care costs alone in 2002 on alcohol related problems (Taylor et al 2007). Similar studies are lacking for the developing countries of the region.

Alcohol consumption: Alcohol consumption in the Americas is approx. 50% greater than the global average. In 2002, per capita alcohol consumption in the Americas was on average 8.7 liters, compared to the global average of 6.2 liters (Rehm et al 2006).

Drinking patterns:

Adults: The average drinking pattern of adults in the majority of countries in the Americas is hazardous (see Table 2.1).

Youth: Binge drinking, especially among young people, is particularly high in many countries in the region (WHO 2001). Studies suggest that children in certain countries in the Americas are starting to drink alcohol at 10 years of age (Carlini Cotrim 1999).

Alcohol related health and social problems

2.1 Alcohol from a global health perspective

Alcohol has become one of the most significant risks to health globally.

According to *The World Health Report 2002*, alcohol is responsible for 4% of disease burden, this being 58.3 million Disability-Adjusted Life Years (DALY's) lost, and 3.2% or 1.8 million of all deaths globally in 2000. Alcohol ranked as the fifth most important risk factor for premature death and disability in the world, among 26 risk factors assessed by the WHO.

2.2 Alcohol's causal role in health and social problems

Overall there are causal relationships between alcohol consumption and 60 types of disease and injury (Rehm et al 2004).

The widespread use of alcoholic beverages is associated with a range of health and social consequences, including sports and leisure injuries, reduced productivity in the workplace, several forms of cancers, chronic liver disease, heart disease, damage to the central and peripheral nervous systems and alcohol dependence.

Alcohol problems can extend beyond the drinker and have effects on those around him or her in areas such as domestic violence, marital problems, financial problems, child abuse, emergency room admissions (Borges et al 2004), violent behavior, injuries and fatalities of passengers in cars or of pedestrians when people drink and drive (MacDonald et al 2006; Borges et al 2004a).

Alcohol consumption is also associated with high-risk behaviors, including unsafe sex and the use of other psychoactive substances. Alcohol-use disorders, of which there are high rates in the region, carry a high degree of co-morbidity with other substance-use disorders such as nicotine dependence, and with sexually transmitted diseases. Recent studies suggest an association between alcohol consumption and HIV/AIDS (Matos et al 2004; Stein et al 2005; Stueve and O'Donnell 2005).

2.3 Alcohol impact in the Americas

In the Americas, alcohol was the most important risk to health in low and middle income countries (including Brazil, Mexico and most Latin American countries) and the second in developed countries, such as the USA and Canada (Rehm and Monteiro 2005) in the year 2000. It was the only region of the world where alcohol ranked first as a risk factor.

Alcohol consumption in the Americas is approx. 40% greater than the global average.

Despite wide sub-regional variations in per capita alcohol consumption, the population-weighted average value in the Americas is 8.7 liters, which is well above the global average of 6.2 liters of per capita consumption (Rehm and Monteiro 2005).

The Region is diverse in terms of the consumption of alcohol. The alcohol related burden is linked to at least two different dimensions of alcohol consumption: average volume and patterns of drinking. Thus, in order to understand and reduce the burden both dimensions should be taken into consideration.

Table 2.1 presents estimates for the year 2002 for selected countries in the Region.

The developed industrialized countries in the Region, such as

Table 2.1 Alcohol exposure and economic characteristics of selected countries in the Americas 2002

| Country (WHO classification) | Per capita consumption ¹ | Unrecorded consumption ² | Drinking patterns ³ | % abstainers | | Per capita consumption per drinker ⁴ | Per capita GDP \$ ⁵ | PPP per capita GDP IS ⁶ | Population 15 yrs and older in 1000 |
|---------------------------------|--|--|-----------------------------------|--------------|---------|---|-----------------------------------|--|---|
| | | | | Males | Females | | | | |
| Argentina (B) | 10.5 | 2.0 | 2 | 9 | 26 | 12.8 | 6,453 | 10,134 | 27,331 |
| Barbados (B) | 7.0 | -0.5 | 2 | 29 | 70 | 14.1 | 9,176 | 14,716 | 214 |
| Belize (B) | 8.6 | 2.0 | 4 | 24 | 44 | 13.0 | 3,429 | 6,337 | 156 |
| Bolivia (D) | 6.34 | 3.0 | 3 | 24 | 45 | 9.7 | 1012 | 2403 | 5,276 |
| Brazil (B) | 8.8 | 3.0 | 3 | 13 | 31 | 11.3 | 3,560 | 7,480 | 127,411 |
| Canada (A) | 9.8 | 2.0 | 2 | 18 | 26 | 12.5 | 23,950 | 28,155 | 25,516 |
| Chile (B) | 8.8 | 2.0 | 3 | 22 | 29 | 11.9 | 5,089 | 9432 | 11,569 |
| Colombia (B) | 7.8 | 2.0 | 3 | 5 | 21 | 8.9 | 1,977 | 6,243 | 29,554 |
| Costa Rica (B) | 7.7 | 2.0 | 3 | 33 | 66 | 15.1 | 4,208 | 8,454 | 2,852 |
| Cuba (A) | 4.5 | 2.0 | 2 | 29 | 70 | 9.0 | - | - | 8,915 |
| Dominican Republic (B) | 7.5 | 1.0 | 2 | 12 | 35 | 9.7 | 2,481 | 6,682 | 5,617 |
| Ecuador (D) | 7.2 | 5.4 | 3 | 41 | 67 | 15.7 | 1,353 | 3,402 | 8,407 |
| El Salvador (B) | 5.6 | 2.0 | 4 | 9 | 38 | - | 2,128 | 4,727 | 4,243 |
| Guatemala (D) | 3.8 | 2.0 | 4 | 49 | 84 | 11.5 | 1,683 | 3,903 | 6,582 |
| Guyana (B) | 5.9 | 2.0 | 3 | 20 | 40 | 8.5 | 961 | 4,111 | 523 |
| Haiti (D) | 7.5 | 0.0 | 2 | 58 | 62 | 18.8 | 470 | 1,663 | 4,967 |
| Honduras (B) | 4.7 | 2.0 | 4 | 72 | 84 | 21.4 | 921 | 2515 | 3,992 |
| Jamaica (B) | 3.9 | 2.0 | 2 | 38 | 61 | 7.8 | 2,904 | 3,548 | 1,767 |
| Mexico (B) | 6.5 | 1.8 | 4 | 36 | 65 | 13.2 | 5,806 | 8,798 | 69,336 |
| Nicaragua (D) | 3.6 | 1.0 | 4 | 12 | 50 | 5.2 | 769 | 3098 | 3,057 |
| Paraguay (B) | 5.3 | 1.5 | 3 | 9 | 33 | 6.6 | 1,445 | 4,490 | 3,512 |
| Peru (D) | 9.9 | 5.9 | 3 | 20 | 29 | 13.1 | 2,085 | 4,820 | 17,761 |
| Suriname (B) | 6.2 | 0.0 | 3 | 30 | 55 | - | 2,216 | - | 302 |
| Trinidad and Tobago (B) | 4.3 | 0.0 | 2 | 29 | 70 | 8.7 | 6,689 | 9,234 | 991 |
| USA (A) | 9.6 | 1.0 | 2 | 34 | 54 | 17.2 | 34,789 | 34,430 | 228,220 |
| Uruguay (B) | 9.8 | 2.0 | 3 | 25 | 43 | 14.9 | 5,137 | 7,474 | 2,557 |
| Venezuela (B) | 9.0 | 2.0 | 3 | 19 | 39 | 12.7 | 4,377 | 5,259 | 17,072 |

¹ in liters of pure alcohol including unrecorded consumption² in liters of pure alcohol³ hazardous drinking score with 1 = least and 4 = most detrimental (see text for further explanation)⁴ Per capita consumption per drinker in liters of pure alcohol including unrecorded consumption⁵ Gross domestic product in US \$⁶ Purchasing power parity (PPP) in international \$

Source: WHO Global Alcohol Database

the USA and Canada have a high per capita consumption (9.3 liters of pure alcohol per capita for 15 year-olds and above). There is an estimated 11.2% of heavy drinkers and an average consumption of 14.3 l per adult drinker.

In developing countries with low mortality rates such as Brazil, Mexico, Chile and others, per capita consumption is similar to the developed countries (9.0 liters of pure alcohol per capita for 15 year-olds and above), the estimated percentage of heavy drinkers is somewhat lower (9.1%) with a similar average of per capita consumption (14.1 l per drinker) but the average pattern of drinking is higher (3.1 compared to 2.0 liters in the US and Canada).

In developing countries with high mortality rates, such as Bolivia and Peru, average per capita consumption is lower (5.1 liters of pure alcohol per capita for 15 year-olds and above), the percentage of heavy drinkers is lower (2.7%) as well as their average consumption (7.6 l) but the average pattern of drinking is as high as the other developing countries (WHO Global Alcohol Database, please consult <http://www.who.int/globalatlas>).

Although per capita alcohol consumption has stabilized in the USA over the years, there has been a 13% increase since 1997 in Canada according to Statistics Canada (Statistics Canada 2005).

2.4 Drinking patterns

Binge drinking is especially prevalent among young people in several countries in the region.

The average drinking pattern of adults in the majority of countries in the Americas is hazardous to health.

2.4.1 Binge Drinking

Binge drinking, defined as 5 or more standard drinks (any alcoholic beverage containing the equivalent of 10 grams of

pure alcohol) per occasion (or in a 2 hour period) for a man and 4 or more standard drinks for a woman, is a pattern of alcohol use associated with increased physical and emotional harm, including violence, accidents, unplanned pregnancy, unprotected sex, STD and HIV (Obot and Room 2005).

Recent analyses of the 2004 Canadian Addiction Survey found that 62% of alcohol consumption occurred on days in which 5 or more drinks for males or 4 or more drinks for females were consumed (Stockwell et al 2005). For young people aged 19 to 24 this percentage rose to close to 90%.

Binge drinking (drinking more than 5 drinks in a single occasion), especially among young people, is particularly high in many developing countries in the region, including Mexico, Brazil, Peru, Bolivia, Uruguay, Costa Rica and Chile (Villatoro et al 2005; Medina Mora et al 2003).

2.4.2 Drinking Pattern Scores

Patterns of drinking can be estimated in the terms of their associated risk of harm. A pattern score adopted by WHO and used in previous analyses is based on a range of scores from 1 to 4, with 4 representing the most detrimental pattern, reflecting high frequencies of heavy drinking occasions, drinking outside meals and drinking in public places (Rehm et al 2004; WHO 2004). Although many countries have not undertaken appropriate general population surveys on alcohol consumption and patterns of drinking, key informants have provided information to WHO which has been used to estimate the typical pattern of drinking in a country.

Table 2.2 shows that AMR A had the lowest mean pattern value in the American region (2.00), followed by AMR B and D, which were roughly equal at just over three. This confirms previous research, which shows that drinking patterns are worse (scores of 3 and 4) for developing countries, such as those in Central America, whereas countries in North America and the Caribbean tend to have less detrimental pattern scores of around 2 (Rehm et al 2004). Both pattern score and unrecorded alcohol consumption play a significant role in determining alcohol-attributable mortality and burden,

Table 2.2 Characteristics of alcohol consumption in WHO Americas Sub Regions (AMR) in 2002

| WHO Region* | Adult Population** | Percent of abstainers | | Alcohol Consumption† | Unrecorded Consumption | Pattern Value | Recorded Beverage Most Consumed |
|--------------------------|--------------------|-----------------------|----|----------------------|------------------------|---------------|---------------------------------|
| | | M | W | | | | |
| AMR A | 262,651 | 32 | 52 | 9.4 | 1.1 | 2.0 | Beer (59%) |
| United States of America | 228,220 | 37 | 54 | 9.6 | 1.0 | 2 | Beer (61%) |
| AMR B | 311,514 | 18 | 39 | 8.4 | 2.6 | 3.1 | Beer (59%) |
| Brazil | 127,411 | 13 | 31 | 8.8 | 3.0 | 3 | Beer (59%) |
| Mexico | 69,336 | 35 | 64 | 7.7 | 3.0 | 4 | Beer (77%) |
| AMR D | 46,049 | 32 | 51 | 7.4 | 4.0 | 3.1 | Spirits and beer (50% each) |
| Peru | 17,761 | 20 | 27 | 9.9 | 5.9 | 3 | Beer (88%) |
| WHO American Region | 620,213 | 25 | 45 | 8.7 | 2.1 | 2.6 | Beer (58%) |
| World | 4,388,297 | 45 | 66 | 6.2 | 1.7 | 2.6 | Spirits (55%) |

*Regional subgroups defined by the World Health Organization.

AMR A: Canada, Cuba, United States of America; AMR B: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guayana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela; AMR D: Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru.

** numbers in thousands

† Adult per capita (age 15+) consumption for 2002 in liters of pure alcohol, derived as average of yearly consumptions from 2001 to 2003, including unrecorded consumption. Numbers may be derived from FAO, World Drink Trends, or WHO Global Alcohol Database depending on availability and accuracy.

which will be confirmed in the following tables. Also of note is that both AMR A and B are predominantly beer drinking cultures, whereas AMR D consumed both spirits and beer in roughly equal amounts. The most populous countries in each region are interesting in terms of their effect on the overall values for the sub region and region, specifically for AMR B and AMR D (since AMR A (specifically the USA) drives much of the average for the region of the Americas as a whole). Mexico has atypically very high abstention rates for AMR B, and consequently lower per capita consumption than that of AMR B and the entire American region, however the pattern value reflects a harmful pattern of drinking among those who do drink (Medina Mora et al 2000; Medina Mora et al 2002). This is the opposite for Peru, where atypically low numbers of abstainers drive up the alcohol per capita consumption values. This, combined with a detrimental drinking pattern, leads to high rates of alcohol-related harm in these regions, as the tables below will illustrate.

2.5 Alcohol related harm in the Americas

2.5.1 Burden of Disease

Alcohol is the leading risk factor for the burden of disease in the developing countries of the Americas and the second leading risk factor in the developed countries of the region.

In the region of the Americas, alcohol was the *leading risk factor* for the burden of disease among 26 different risk factors which have been assessed in 2000 (Rehm and Monteiro 2005), as shown in Figure 2.1 (showing the 10 leading risk factors in the Americas) and Table 2.3 (showing 10 leading risk factors by sub region). Although alcohol is a major risk factor in several regions of the world, the Americas are unique in that alcohol surpasses tobacco smoking as the most important risk factor for burden of disease (Rehm and Monteiro 2005).

Figure 2.1 10 Leading Risk factors for the burden of disease in the Americas, 2000 (in % DALYs)

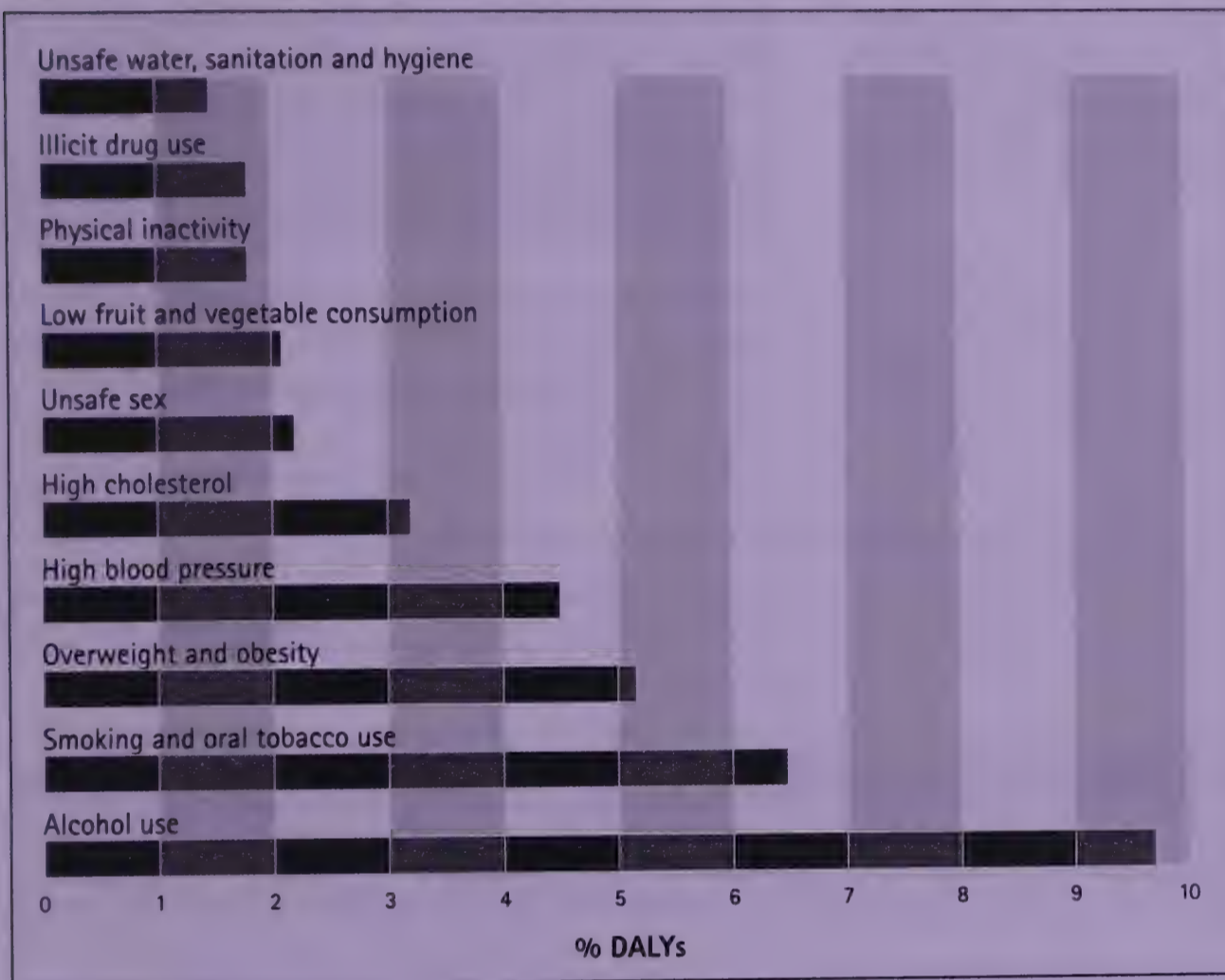


Table 2.3 Leading risk factors for disease burden in 2000 in different regions of the Americas ranked by percentage of disability-adjusted life years (DALYs) lost attributable to each factor *

| America D (High childhood and adult mortality) | | America B (Low childhood and adult mortality) | | America A (Very low childhood and adult mortality) | |
|---|--------|--|--------|---|--------|
| Total DALYs (thousands) | 17 052 | Total DALYs (thousands) | 80 437 | Total DALYs (thousands) | 46 284 |
| Alcohol | 5.5 | Alcohol | 11.4 | Smoking | 13.3 |
| Underweight | 5.3 | Overweight | 4.2 | Alcohol | 7.8 |
| Unsafe sex | 4.8 | Blood pressure | 4.0 | Overweight | 7.5 |
| Unsafe water and sanitation | 4.3 | Smoking | 3.7 | Blood pressure | 6.0 |
| Overweight | 2.4 | Cholesterol | 2.3 | Cholesterol | 5.3 |
| Blood pressure | 2.2 | Unsafe sex | 2.1 | Low fruit and vegetable intake | 2.9 |
| Iron deficiency | 1.9 | Lead exposure | 2.1 | Physical inactivity | 2.7 |
| Indoor smoke | 1.9 | Low fruit and vegetable intake | 1.8 | Illicit drugs | 2.6 |
| Cholesterol | 1.1 | Unsafe water and sanitation | 1.6 | Unsafe sex | 1.1 |
| Low fruit and vegetable intake | 0.8 | Physical inactivity | 1.4 | Iron deficiency | 1.0 |

*Definition of regions: The regional sub-groupings used were defined by WHO on the basis of high, medium or low levels of adult and of infant mortality. "A" stands for very low child and very low adult mortality, "B" for low child and low adult mortality and "D" for high child and high adult mortality.
America A: Canada, Cuba, United States of America; **America B:** Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guyana, Honduras, Jamaica, Mexico, Panama, Paraguay, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela; **America D:** Bolivia, Ecuador, Guatemala, Haiti, Nicaragua, Peru

2.5.2 Alcohol related Deaths

It is estimated that in the year 2002, alcohol lead to the death of ONE person every TWO minutes in the Region.

Alcohol consumption causes a considerable disease burden in the Region, surpassing the global estimates: 5.4% of all the deaths and 10% of all Disability Adjusted Life Years in the year 2002 could be attributed to alcohol consumption, with most of the burden in Central and South America (Rehm et al 2006).

It is estimated that it led to at least 323,000 deaths in 2002, which is proportionally higher than the global average or that in the European region (Rehm et al 2006). Intentional and unintentional injuries account for about 60% of all alcohol-related deaths and almost 40% of alcohol-related disease burden. Most of the disease burden affects men (83.3%), and 77.4% of the burden comes from the population aged 15-44, thus affecting mostly young people and young adults in their most productive years of life. Table 2.4 and 2.5 summarize the results for the year 2002.

Table 2.4 Alcohol attributable mortality in the Americas in 2002, compared to the World

| | AMR 2002 | | | | World 2002 | | | |
|--|----------|-------|-------|-------|------------|--------|-------|-------|
| | no. | | % | | no. | | % | |
| | M | W | M | W | M | W | M | W |
| Maternal and perinatal conditions (low birth weight) | 0 | 0 | 0.0 | 0.2 | 1 | 1 | 0.1 | 0.4 |
| Cancer | 30 | 19 | 10.7 | 40.1 | 361 | 105 | 19.7 | 36.7 |
| Diabetes mellitus | -4 | -1 | -1.3 | -2.0 | -8 | -4 | -0.4 | -1.3 |
| Neuropsychiatric disorders | 24 | 5 | 8.8 | 9.8 | 106 | 25 | 5.7 | 8.6 |
| Cardiovascular diseases | 31 | -8 | 11.1 | -17.4 | 361 | -53 | 19.7 | -18.4 |
| Cirrhosis of the liver | 50 | 14 | 18.3 | 30.7 | 293 | 77 | 16.0 | 26.7 |
| Unintentional injuries | 80 | 13 | 29.0 | 27.0 | 501 | 96 | 27.3 | 33.3 |
| Intentional injuries | 65 | 5 | 23.4 | 11.7 | 220 | 40 | 12.0 | 14.1 |
| All alcohol-attributable deaths | 276 | 47 | 100.0 | 100.0 | 1,836 | 287 | 100.0 | 100.0 |
| All deaths | 3,170 | 2,791 | | | 29,891 | 27,138 | | |
| Percentage of all deaths attributable to alcohol | 8.7% | 1.7% | | | 6.1% | 1.1% | | |

Source: Rehm et al 2006

Table 2.5 Alcohol-attributable mortality and DALYs by sub region in the Americas, 2002

| Region | Alcohol-attributable deaths ('000) | % of all deaths in region or sub region | Alcohol-attributable DALYs ('000) | % of all DALYs in region or sub region |
|----------|------------------------------------|---|-----------------------------------|--|
| AMR A | 50 | 1.8 | 4 011 | 8.6 |
| AMR B | 248 | 9.2 | 9 636 | 11.8 |
| AMR D | 26 | 4.8 | 948 | 5.5 |
| Americas | 323 | 5.4 | 14 595 | 10.0 |
| World | 2 123 | 3.7 | 64 975 | 4.4 |

Source: Rehm et al 2006

2.5.3 Alcohol and Young People

Research suggests that children in the region are starting to drink as young as 10 years of age. In 2002, at least 69,000 deaths of people aged 15-29 were attributed to alcohol drinking.

For young people, alcohol is the number one drug of choice. In fact, teens use alcohol more frequently and heavily than all other illicit drugs combined (NIAAA 2000). Although most children aged 10 to 14 have not yet begun to drink, early adolescence is a time of special risk for beginning to experiment with alcohol (WHO 2001).

While some parents and guardians may feel relieved that their teen is "only" drinking, it is important to remember that alcohol is a powerful psychoactive (mood-altering) drug (WHO 2004c; NIAAA 2000). Not only does alcohol affect the mind and body in often unpredictable ways, but teens lack the judgment and coping skills to handle alcohol wisely. As a result:

- Alcohol-related traffic accidents are a major cause of death and disability among young people. Alcohol use also is linked with youthful deaths by drowning, fire, suicide, and homicide.
- Teens who use alcohol are more likely to become sexually active at earlier ages, to have sexual intercourse more often and to have unprotected sex than teens who do not drink.
- Young people who drink are more likely than others to be victims of violent crime, including rape, aggravated assault and robbery.
- Teens who drink are more likely to have problems with school attendance, school work and school conduct.
- An individual who begins drinking as a young teen is four times more likely to develop *alcohol dependence* than someone who waits until adulthood to use alcohol.

Analysis from school surveys (Table 2.6), mostly sponsored by CICAD (Interamerican Commission on Drug Abuse Control, see www.cicad.oas.org for details) in various countries of the region since 2001, indicate that adolescents and young people in Latin America drink often, at an age when alcohol consumption is prohibited by law. Moreover, while data on harms

were not available, recent research indicates that the earlier the age of initiation of alcohol consumption, the greater the risk of developing alcohol dependence later in life (Grant and Dawson 1997). In addition, acute consequences of underage drinking include unintentional death and injury associated with driving or engaging in other risky tasks after drinking, homicide and violence, suicide attempts, sexual assault, risky sexual behavior, vandalism and property damage. In addition, these consequences appear to be more severe for those who start drinking at a young age (IOM 2004).

Binge drinking is high especially among young people. In Brazil, for example, a recent survey on health-related behaviour among 800 secondary students of seven private middle and high-school in São Paulo city found that 25% of the adolescents surveyed reported at least one episode of binge drinking (at least 5 drinks in about 2 hours) in the previous 30 days. The same behaviour was reported by 10% of 900 low-income students surveyed in 10 public schools (Carlini-Cotrim et al 1998); in Mexico, 21% of the high school students reported an intake five or more drinks per occasion during the month previous to the survey (Villatoro et al 2005).

The Global School Health Survey is another large project sponsored by the WHO, PAHO and the Centre for Diseases Control (CDC) (<http://www.who.int/chp/gshs/en/> or <http://www.cdc.gov/gshs/> or <http://www.bvsde.ops-oms.org/bvsdeescuelas/EMSE/EMSEesp.html>). Using comparable questions to school children aged 13-15 years, the survey collects data on alcohol consumption and other risk behaviors. Several countries in Latin America are participating, and results are available for the countries in Table 2.7.

Another study has demonstrated that early initiation of alcohol consumption is linked to drug abuse, delinquency, antisocial behavior in adulthood and educational failure (Curie 2004).

As seen in Table 2.8, at least 69,000 deaths of people aged 15-29 were alcohol related and the estimated number of years of life lost to death and disabilities related to alcohol was over 7 million years in the year 2002 (WHO 2002). Therefore, underage drinking is a significant problem in the Americas.

Table 2.6 Alcohol use among school youth (14–17 years old) in selected Latin American Countries, 2001–2005

| Country | Gender | Lifetime Use | Use last year | Use last month |
|-----------|---------|--------------|---------------|----------------|
| Venezuela | Females | 63.1% | 42.8% | 23.1% |
| | Males | 68.2% | 49.4% | 27.8% |
| | Total | 65.6% | 45.9% | 25.4% |
| Mexico* | Females | 46% | - | 35.2% |
| | Males | 45.8% | - | 35.1% |
| | Total | 645.8% | - | 35.2% |
| Panamá | Females | 63.7% | 43.8% | 27.2% |
| | Males | 63.9% | 46.7% | 31.0% |
| | Total | 63.8% | 45.2% | 28.8% |
| Guatemala | Females | 47.9% | 27.7% | 13.3% |
| | Males | 53.9% | 34.4% | 19.3% |
| | Total | 50.5% | 30.6% | 15.8% |
| Nicaragua | Females | 53.6% | 32.3% | 16.0% |
| | Males | 65.7% | 44.3% | 26.1% |
| | Total | 59.0% | 37.7% | 20.5% |
| Uruguay | Females | 77.1% | 65.3% | 48.2% |
| | Males | 79.4% | 68.9% | 52.5% |
| | Total | 78.2% | 67.0% | 50.1% |
| Paraguay | Females | 60.8% | 49.0% | 40.0% |
| | Males | 58.7% | 48.1% | 40.4% |
| | Total | 59.8% | 48.6% | 40.0% |
| Brazil | Females | 70.3% | 68.8% | 48.3% |
| | Males | 68.4% | 66.2% | 47.8% |
| | Total | 69.3% | 67.4% | 48.0% |
| Colombia | Females | 74.2% | 63.1% | 49.0% |
| | Males | 79.1% | 68.4% | 55.3% |
| | Total | 76.4% | 65.4% | 51.9% |
| Chile | Females | 69.5% | 59.2% | 40.2% |
| | Males | 66.8% | 54.6% | 40.2% |
| | Total | 68.1% | 56.9% | 40.1% |
| Bolivia | Females | 34.0% | 22.7% | 13.7% |
| | Males | 44.3% | 30.9% | 19.3% |
| | Total | 39.0% | 26.7% | 16.4% |
| Ecuador | Females | 58.0% | 39.8% | 25.3% |
| | Males | 63.3% | 43.7% | 30.9% |
| | Total | 60.5% | 41.7% | 28.0% |
| Peru | Females | 47.2% | 35.0% | 23.2% |
| | Males | 65.7% | 40.1% | 28.6% |
| | Total | 59.0% | 37.5% | 25.9% |
| Argentina | Females | 62.3% | 50.0% | 42.0% |
| | Males | 65.7% | 56.6% | 46.0% |
| | Total | 59.0% | 53.0% | 42.2% |

* Age range was 12–18 years (Villatoro et al 2005)

Source for Brazil: SENAD (Secretaria Nacional Antidrogas); Source for Mexico: Villatoro et al 2005; Source for other countries: CICAD school surveys

Table 2.7 Alcohol consumption among 13–15 years old school children in selected Latin American countries¹

| Country | Year | N (total) | Prevalence (%) in consumption in last 30 days | | | Prevalence (%) who really got drunk at least one in lifetime | | | Prevalence (%) who had a problem as a result of drinking in lifetime | | |
|------------------------|------|--------------|--|------|-------|--|------|-------|--|------|-------|
| | | | Total | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls |
| Chile ² | 2004 | 2111 | 34% | 31% | 37% | 26% | 25% | 26% | 18% | 17% | 19% |
| Guyana | 2004 | 1212 | 35% | 47% | 26% | 28% | 40% | 18% | 12% | 18% | 6% |
| St. Lucia | 2007 | 1276 | 55% | 59% | 52% | 35% | 41% | 30% | 15% | 15% | 14% |
| Uruguay | 2006 | 3406 | 60% | 62% | 58% | 30% | 33% | 29% | 19% | 24% | 16% |
| Venezuela ³ | 2003 | 2249 | 35% | 38% | 32% | 20% | 25%W | 15% | 11% | 14% | 8% |

Source: CDC

Table 2.8 Burden of Disease, in mortality and DALYs, in 2002 Attributable to Alcohol

| REGION | Males 15–29 | | | | Females 15–29 | | | |
|--------|------------------|------------------|-----------------|------------------|------------------|-------------------|-----------------|------------------|
| | Deaths (000s) | %Total Deaths | DALYs (000s) | % total DALYs | Deaths (000s) | % total Deaths | DALYs (000s) | % total DALYs |
| Afr D | 16 | 9.2% | 807 | 7.2% | 4 | 1.5% | 194 | 1.3% |
| Afr E | 32 | 10.2% | 1,701 | 9.7% | 5 | 0.9% | 275 | 1.1% |
| Amr A | 9 | 23.2% | 1,471 | 29.3% | 1 | 3.8% | 395 | 9.6% |
| Amr B | 51 | 34.8% | 4,095 | 31.2% | 4 | 7.9% | 659 | 7.9% |
| Amr D | 4 | 15.9% | 355 | 16.6% | 0 | 2.3% | 65 | 3.3% |
| Emr B | 2 | 5.8% | 93 | 2.8% | 0 | 1.1% | 11 | 0.4% |
| Emr D | 2 | 1.4% | 74 | 0.9% | 0 | 0.3% | 16 | 0.2% |
| Eur A | 9 | 27.0% | 1,132 | 26.3% | 1 | 11.3% | 235 | 6.4% |
| Eur B | 10 | 25.2% | 704 | 18.0% | 1 | 7.9% | 107 | 3.3% |
| Eur C | 41 | 40.8% | 2,366 | 34.9% | 6 | 21.3% | 267 | 7.5% |
| Sear B | 12 | 10.8% | 669 | 9.8% | 1 | 1.8% | 80 | 1.3% |
| Sear D | 33 | 7.1% | 2,029 | 6.3% | 5 | 1.1% | 272 | 0.7% |
| Wpr A | 2 | 18.6% | 211 | 17.4% | 0 | 8.2% | 101 | 9.0% |
| Wpr B | 40 | 14.0% | 3,874 | 15.4% | 7 | 5.2% | 654 | 3.3% |
| WORLD | 263 | 13.9% | 19,583 | 13.8% | 36 | 2.2% | 3,331 | 2.4% |

"A" stands for very low child and very low adult mortality, "B" for low child and low adult mortality "C" for low child mortality and high adult mortality, "D" for high child and high adult mortality and "E" high child and very high adult mortality.

Afr = African Region; Amr = Americas Region; Emr = Eastern Mediterranean Region; Eur = European Region; Sear = South-East Asia Region; Wpr = Western Pacific Region
For a full list of the countries in each region and category, go to the World Health Report, 2002 Statistical Annex List of Member States by WHO Region and Mortality Stratum.

Source: Rehm et al 2006

¹ Figures were rounded up, for exact numbers please consult <http://www.who.int/chp/gshs/en/>

² Metropolitan area (other areas available too but not shown here)

³ Barinas (survey available also for Lara, but not shown here)

Other statistics from the US are also revealing (CAMY 2005):

- Underage drinking accounts for between 12 and 20 per cent of the U.S. alcohol market.
- Statistics on heavy drinkers (5+ drinks per drinking occasion) demonstrate:
 - 12- to 14-year-old binge drinkers consume 92% of the alcohol drunk by their age group.
 - 96% of the alcohol drunk by 15- to 17-year-olds and by 18- to 20-year-olds is consumed when the drinker is having five or more drinks at a time.

It is known that access to alcohol is a strong determinant of alcohol consumption (Babor et al 2003), particularly among young people. A recent study in Brazil among 1,990 students aged 11-21 years old, indicated that alcohol was very easy to buy in shops, and to drink in a social context with relatives and friends. Only 1% reported that they had tried and could not buy alcoholic beverages (Vieira et al 2007).

In conclusion, there is evidence that young people are starting to drink at earlier ages (Vieira et al 2007). This can cause physiological harm to the brain (which matures until the age of 25); increases the risk of developing alcohol dependence

by 4-5 times; and can lead to acute consequences that play a significant role in mortality statistics, such as motor vehicle crashes, homicides, suicides and drownings. Marketing has played a critical role in the global convergence of patterns of alcohol use in developed and developing countries (see section below on marketing), in an environment with few health and safety protections available (IOM 2004; WHO 2001).

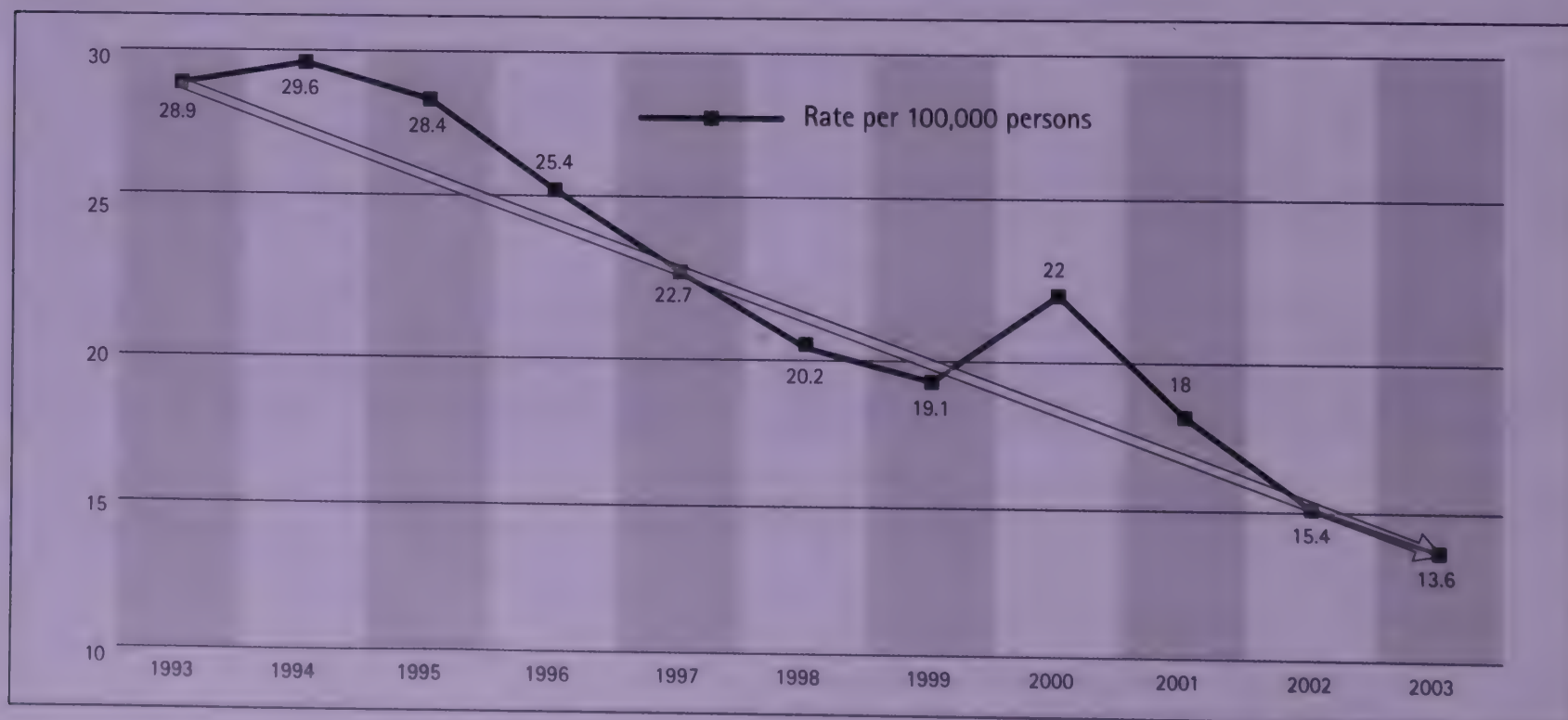
2.5.4 Alcohol and Traffic Safety

Between 20-50% of traffic accident fatalities in the Americas are alcohol related

The consumption of alcohol, even in small amounts, increases the risk of being involved in a traffic crash, for motorists and pedestrians, by impairing judgment, vision, reaction time and motor coordination (WHO 2007).

Despite the lack of country specific data, driving after drinking is perceived as a common practice which needs to be controlled. Deaths and disabilities caused by a combination of alcohol consumption and driving can be fully prevented. Traffic accidents across the Region are strongly related to harmful

Figure 2.2 Deaths by traffic accident in Cali, 1993–2003



alcohol use. Between 20 – 50% of traffic accident fatalities are alcohol-related (WHO 2004b).

While there is no comprehensive regional research on alcohol and traffic safety, the following are examples which provide a snap-shot of drinking and driving data and the measures taken by various authorities in the region in an effort to reduce alcohol related death and injury.

Colombia: Data from the Department of Forensic Medicine in Cali, Colombia, has shown that elevated blood alcohol levels were involved in 60% of traffic deaths. It is important to point out that 50% of traffic injury deaths in Cali were pedestrians who were hit. Figure 2.2 shows the situation from 1993–2003 (for more information please consult http://vigilesiones.univalle.edu.co/informes/anuales/transito/transit_2003.pdf).

In **Mexico**, a study of 112 patients attending emergency rooms due to injuries caused by car accidents found that 13.4% of the patients had positive alcohol concentrations in their blood, and 14.6% of the cases admitted that they had consumed alcohol six hours prior the accident (Borges et al 2005).

In the **USA** drunk driving continues to be an important issue. In 2004, impaired driving consequences included 16,694 fatalities, 275,000 injuries (police reported injuries), over \$40 billion annual total cost to society and 1.4 million arrests (NHTSA 2006).

The US National Highway Traffic Safety Administration (NHTSA) mortality statistics from traffic injuries from 1999–2004 indicated that “drunk driving continues to play a major role in the motor vehicle traffic crash experience *across race, ethnic, age and gender divides*”. Data showed that the percentage of fatally injured drivers who were drinking was highest for Native Americans (57%) and Hispanics or Latinos (47%). This trend appeared to be independent of such socioeconomic influences as education levels or the proportion of female-to-male drivers in the population of drivers killed (NHTSA 2006).

In **Brazil**, several studies have been conducted and were reviewed by Carlini-Cotrim (2000). Among them, a study in four Brazilian State capitals measured BAL in 92% victims (n=865)

of traffic accidents during a typical week. The presence of any alcohol content was found in 61% of the sample; 16.6% of the total sample had BAL over 0.6g/litter. Among fatal victims the alcohol presence was similar: 53% tested positive. However, 38,2% of them presented BAL over 0.6g/litter. According to Carlini-Cotrim (2000) during festivities like Carnival the rates of intoxicated victims in traffic accidents is even higher. Oliveira and Melcop (1997) found that 80.7% of traffic accidents victims tested alcohol positive in a study conducted in Recife. In São Paulo, 384 victims of external causes who attended an emergency room of a public hospital were randomly tested for BAL (Carvalho 1999). Preliminary results show that 21.8% of the victims of traffic accidents presented BAL + while 43.1 % of the victims of aggression tested positive.

A recent research study in Diadema, Brazil, indicated that 30% of drivers were driving under the influence and 22% were above the legal limits of 0.6% dg/ml (Dualibi et al in press).

2.5.5 Alcohol and Violence

Across countries, harmful alcohol use is estimated to be responsible for 26% of male and 16% of female DALYs lost through homicide (WHO 2004a).

There are strong links between alcohol consumption and an individual's risk of being either a perpetrator or victim of violence. Alcohol related violence or abuse includes intimate partner violence, child maltreatment, youth violence, sexual violence and elder abuse (for more information and references please consult www.who.int/violence_injury_prevention/publications/violence/en/Index.html).

Links between alcohol and violence

- Alcohol use directly affects cognitive and physical functions.
- Hazardous alcohol use can reduce self-control and the ability to process incoming information and assess risks. It can also increase emotional liability and impulsivity making certain drinkers more likely to resort to violence

in confrontation and less capable of negotiating a non-violent resolution to conflicts.

- Reduced physical control and ability to recognize warning signs in potentially dangerous situations can make some drinkers easy targets for perpetrators.
- Individual expectancies and societal beliefs about the effects of alcohol (e.g., increased confidence, increased aggression) can mean that alcohol is consumed as preparation for involvement in violence.
- Uncomfortable, crowded and poorly managed drinking venues contribute to increased aggression among drinkers.
- Alcohol and violence can be linked ritualistically as part of youth gang cultures;
- Alcohol and violence may be related through a common risk factor (e.g. antisocial personality disorder) that contributes to the risk of both heavy drinking and violent behavior.

The impact of alcohol related violence

- **Homicides:** Across countries, harmful alcohol use is estimated to be responsible for 26% of male and 16% of female DALYs lost through homicide (http://www.who.int/violence_injury_prevention/violence/world_report/factsheets/pb_violencealcohol.pdf).
- **Link between alcohol and violence:** Alcohol misuse and violence both act as catalysts for each other.
- **Victims:** For victims, experiencing or witnessing violence can lead to the harmful use of alcohol as a way of coping or self-medicating (Wingwood et al 2000). Health impacts also include physical injuries and emotional harm such as depression, anxiety and sleep problems. Personal relationships between victims and their families and friends can also be affected, including the victim's ability to work or go to school.
- **Children:** Children who witness violence or threats of violence between their parents are more likely to develop emotional and behavioral problems during childhood. They are also more likely to develop heavy drinking patterns or alcohol dependency later in life, increasing their risk of being perpetrators of violence (Widom et al 1995).
- **Economic cost:** The economic burden of alcohol related violence on health and criminal justice agencies can be immense. Apprehending and treating offenders and vic-

tims of alcohol related violence is costly and diverts resources from other health and crime issues.

- **Social consequences:** the impact of alcohol related violence can extend beyond the individuals involved. A high prevalence of alcohol-related violence within a community can also affect quality of life: reducing community cohesion, increasing fear of crime and preventing people from visiting places associated with disorder such as city centers at night (London Department of Transport 2004).

Evidence Based research on links between alcohol and violence in the Americas

Across studies in seven countries (Argentina, Australia, Canada, Mexico, Poland, Spain and the USA), the percentage of violence-related injuries associated with harmful alcohol use was higher in societies that had greater alcohol consumption per capita (Cherpitel et al 2005).

A study sponsored by the Pan American Health Organization (PAHO Multicentric Study on Alcohol, Gender, Culture and Harms) compared data from household surveys in 10 countries in the Americas, which asked men and women over 18 about their alcohol consumption and a variety of alcohol related problems. The table below shows the results from reports of fighting after drinking and injury after drinking.

In a study carried out in Argentina, Brazil and Mexico, as part of the WHO Collaborative Study on Alcohol and Injuries, 80% of patients who ended up in an emergency room with unintentional or intentional injuries associated with alcohol were male and under 30 years of age. About 46% of violence-related cases included alcohol use (versus 11.5% non violence). The study also demonstrated that violence related injuries increase with drinking (MacDonald et al 2006).

In Chile, one study in six emergency rooms showed that 3 of 10 persons admitted to ER for any kind of violence had been drinking in the previous hours. The study also demonstrated that there was a high percentage of people with positive blood alcohol levels involved in street violence cases (39%), followed by 20% of people having attempted suicide or being involved in domestic violence (CONACE 2001).

Table 2.9 Prevalence of fighting and injury after drinking, respectively, among drinkers by country and gender. *

| | Prevalence of fighting (%) | | Prevalence of injury (%) | |
|-------------|----------------------------|-------|--------------------------|-------|
| | Men | Women | Men | Women |
| Canada | 4.41 | 1.20 | 6.39 | 2.59 |
| Argentina | 8.41 | 1.83 | 9.24 | 0.94 |
| USA (II) | 21.72 | 8.68 | 10.27 | 2.36 |
| Brazil (I) | 9.90 | 2.99 | 4.88 | 1.40 |
| Brazil (II) | 16.24 | 5.54 | 3.74 | 1.35 |
| Belize | 11.94 | 4.83 | 4.06 | 0.98 |
| Mexico | 5.68 | 0.49 | 7.17 | 0.62 |
| Nicaragua | 26.53 | 18.00 | 12.93 | 6.00 |
| Peru | 10.97 | 2.23 | 4.80 | 0.00 |
| Costa Rica | 23.52 | 6.22 | 6.69 | 2.60 |
| Uruguay | 4.59 | 0.80 | 3.61 | 0.53 |

Source: PAHO Multicentric Study final report (in press)

Note: Heavy episodic drinking was determined as having at least one episode of consuming at least 5 drinks in one sitting in the past year

A study conducted in Pachuca, Mexico, found that there was a significant relationship between habitual alcohol consumption and Emergency Room (ER) injuries. Injured patients in the ER sample were significantly more likely to report high frequency/ high quantity of drinking during the last 12 months than the general population and to report drinking within 6 hours before the injury. Positive blood alcohol levels were found in 17.7 % of injured patients and 15.8% reported alcohol consumption six hour prior to the accident (Borges et al 2005).

In the USA, one survey found that offenders had used alcohol or other psychoactive substances in 61% of sexual violence incidents. In 76% of these incidents, alcohol had been consumed prior to the violent act (Brecklin and Ullman 2001). Of the 11.1 million victims of violent crime each year in the USA, almost one in four, or 2.7 million, report that the offender had been drinking prior to the crime (Greenfield, 1998).

In Brazil, Duarte (1999) studied 75% of the files of homicide cases that went to Court in the city of Curitiba, from 1995 to 1998. Her data strongly suggest that in 70 % of the 123 cases

analyzed the victim and/or the perpetrator were under the influence of alcohol when the crime happened.

Carlini-Cotrim and Chasin also report (2000) a study of all fatally injured victims tested for alcohol in the Institute of Forensic Medicine of the city of Sao Paulo, Brazil, during 1994. They found that 64% of victims from drowning, 52% of homicide victims, 53% of fatally injured pedestrians and 50% of drivers/ passengers were intoxicated in the moment of their death.

In Mexico, Borges et al (2004) reported rates of emergency room entrances with positive alcohol levels varying between 15% and 21% for traumatic events and from 3.4% to 6.4% in medical emergencies. The rates for males were double the ones for females in a beach resort city and from 4 to 5 times higher in other cities. The authors reported that patients from trauma (from 63% to 79%) and medical emergencies (72% to 87%) that had used alcohol within the 6 hours prior to the event were very likely to attribute the emergency to the use of alcohol.

Borges et al (2004) in an analysis of data for Mexico from a WHO collaborative study used a multiple matching approach that took into account three control time periods: the day prior to the injury, the same year in the previous week and the same day in the previous month. In the analysis, the estimated relative risk of injury for patients who reported having consumed alcohol within 6 hours previous to the injury (17% of the sample) was 3.97 (95% confidence interval; 2.88-5.48). The increase in the relative risk was concentrated in the 2 hours after drinking. There was a positive association of increasing risk with increasing numbers of drinks consumed. The data suggested that relative risk estimates were the same for patients with and without alcohol use disorders.

In a similar analysis of the data from Argentina and Brazil, Borges et al (2006) reports a percentage of alcohol use in the 6 hours previous to non fatal injuries of 21.3% of all cases entering emergency departments in Argentina. This proportion increased to 25.3% when only violence related injuries were considered and rates for Brazil were 12.8 and 25.4% respectively. Similar analysis as the ones described for Mexico were performed for the total sample coming from 10 countries with similar results to the ones described above.

Marleny et al (2005) in a sample of persons' death by homicide in Colombia from 1990 to 2002, found that 24% (IC95%: 22% - 26.5%) tested positive for alcohol in blood. This fluctuated between 13.6% (IC95%: 7% - 22.6%) in 2000 and 39.1% (IC95%: 29% - 47.5) in 1990.

2.5.6 Alcohol and Health of Indigenous Populations

Increased access and availability of alcohol within indigenous communities, combined with poor living and working conditions, a lack of health, education and alcohol prevention and treatment programs, are all contributing to a high morbidity and mortality rate from alcohol related causes (Room et al 2002).

Alcohol and tobacco are the substances most widely used which cause the greatest overall harm among indigenous people. The most significant consequences are health problems, social disruption and destruction of the indigenous culture and values.

Indigenous communities from Brazil, Mexico, Nicaragua, Panama and Bolivia report that the use of alcohol was an old tradition even before colonization (PAHO 2006). On the other hand, in Canada, alcohol did not exist before colonization and its introduction brought severe problems to the community. Some communities still use alcohol for therapeutic, medicinal and/or ritualistic purposes, and others use alcohol with food during festivities. However, after the colonization, traditional beverages consumed by the indigenous population were slowly replaced with distilled beverages. Alcohol consumption has increased and is widespread, especially among young men. The religious character of alcohol use has been lost, and is currently used mainly for intoxicating purposes. Increased access and availability of alcohol within these communities, combined with poor living and working conditions, a lack of health, education and alcohol prevention and treatment programs, are all contributing to a high morbidity and mortality rate from alcohol related causes (Room et al 2002).

Experiences in several indigenous communities in Australia, New Zealand, Canada, US and South Africa indicate that community based approaches can be effective in reducing the social and health problems related to alcohol consumption. Indigenous communities must be empowered to take action with political and financial support and the involvement of the indigenous peoples themselves in responding to these problems (Hall 1986; Brady Rendall-Mkosi 2005; Brady M 1998; Brady 2005; WHO 1996).

2.5.7 Alcohol and Gender

Alcohol use and related problems are linked to men's and women's roles and expectations in society, besides biological differences between genders in alcohol metabolism (Gender Rev Panam Salud Publica 2002). Traditionally men drink more frequently and more heavily than women in developed

countries, and in some developing countries the patterns of drinking between men and women are converging. Although alcohol use among women is increasing gradually, treatment programs tend to be focused on men and sometimes overlook the needs of women.

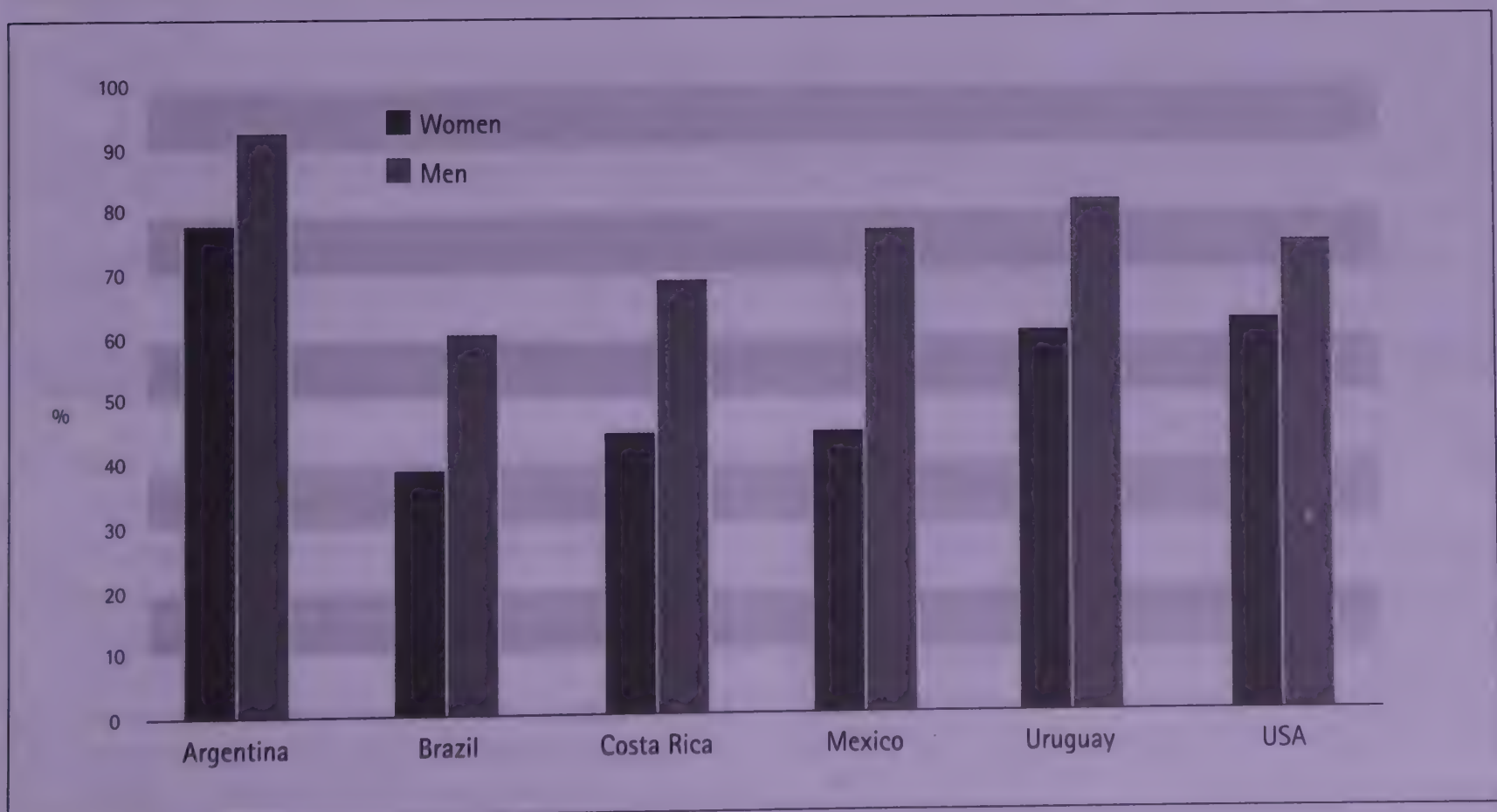
Results from the GENACIS project (Gender, Alcohol, Culture: an International Study) compared the prevalence of drinking among women and men in six different countries (Argentina, Brazil, Costa Rica, Mexico, Uruguay and USA). The results indicated that men drink more than women (Figure 2.3), the prevalence of heavy drinking (Figure 2.4) is three to four times more common among men than women; and that gender and culture had strong influences on alcohol use and abuse (Obot and Room 2005).

As a result of globalization more women, particularly younger ones with higher educational attainment, are drinking and consequently, some of them are experiencing problems due to this practice (Obot and Room 2005). Studies from alcohol

related deaths in Mexico's capital city show that the percentage of deaths related to alcohol consumption in women has increased in recent years. Data from databases recording the forensic causes of death, report that in 1990, 10% of female suicides were alcohol-related, a figure that rose to 25% by 1995. In 1990, 3% of women killed another person when they were inebriated, a figure that rose to 28.4% by 1995. In 1990, 5.8% of women died in accidents while they were inebriated, and by 1995, this figure had risen to 17.5% (Gutiérrez 2006).

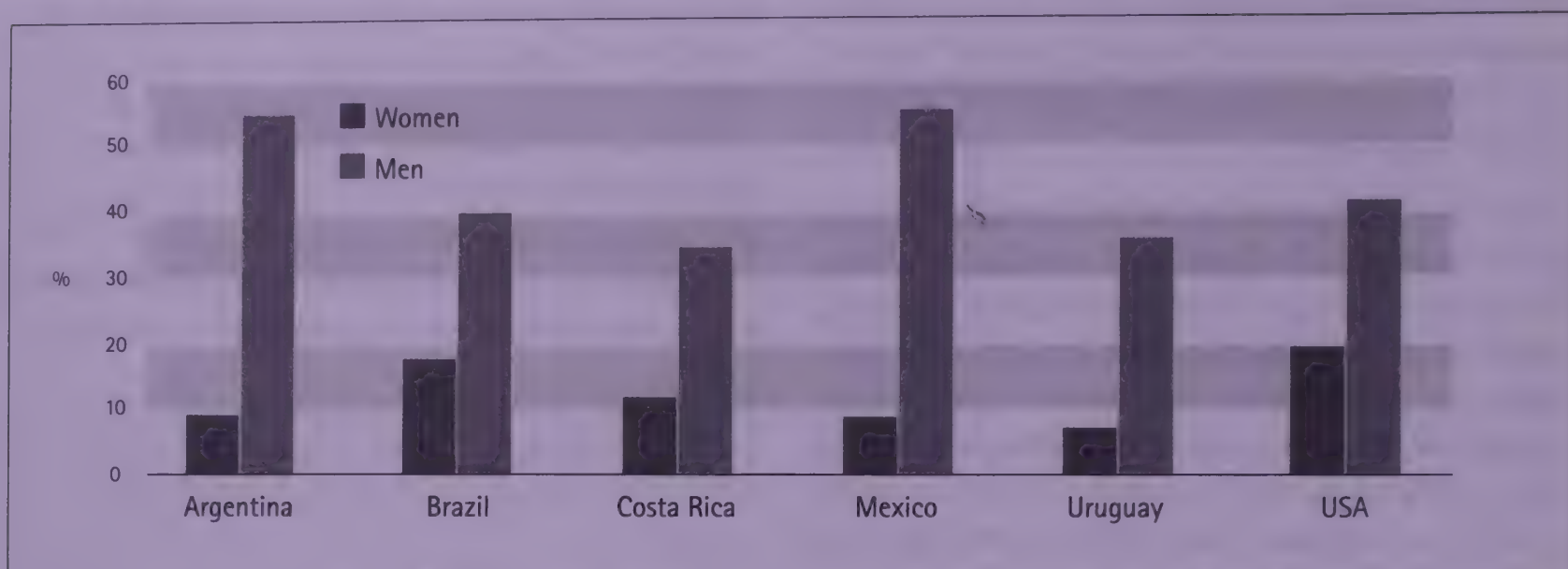
Table 2.10 provides information on the prevalence of drinking (in the past 12 months) and heavy episodic drinking (drinking 5 or more drinks in one occasion in the last 12 months) among men and women in 10 countries of the Americas, based on household surveys of the general population undertaken between 2002-2005, using comparable questions (PAHO in press). As it can be seen, alcohol consumption and heavy drinking episodes are more common among men and women in all countries, although differences between genders varied from country to country.

Figure 2.3 Prevalence of drinking among women and men by country



Source: Obot and Room 2005

Figure 2.4 Prevalence of heavy episodic drinking among current drinkers by country



Source: Obot and Room 2005

Table 2.10 Prevalence of heavy episodic drinking in participating countries among men and women

| Country | Overall (%) | Men (%) | Women (%) |
|-------------|-------------|---------|-----------|
| Argentina | 30.07 | 55.52 | 9.62 |
| Canada | 48.26 | 63.45 | 36.65 |
| Brazil (I) | 26.29 | 36.12 | 18.48 |
| Brazil (II) | 31.00 | 35.64 | 10.36 |
| Belize | 22.86 | 38.17 | 8.86 |
| Nicaragua | 16.8 | 40.23 | 6.64 |
| Peru | 37.2 | 59.06 | 26.11 |
| Mexico | 28.54 | 56.60 | 9.04 |
| Costa Rica | 22.51 | 33.98 | 11.29 |
| Uruguay | 18.40 | 36.70 | 7.37 |
| USA | 26.93 | 37.87 | 16.80 |

Source: PAHO multicentric country surveys (in press)

Note: Heavy episodic drinking was determined as having at least one episode of consuming at least 5 drinks in one sitting in the past year

There are several differences between women and men that need to be taken into consideration, such as:

1. **The effect of alcohol on women:** Women, as well as children and young people, are usually more affected by alcohol and have higher concentrations of alcohol in

their blood than adult men given the same alcohol intake. This is because women tend to have lower body weights, smaller livers and higher proportion of fat to muscle.

2. **The stigma⁴ of alcohol and seeking help:** Women tend to experience more social stigma related to alcohol con-

⁴ **Social stigma** is severe social disapproval of personal characteristics or beliefs that are against cultural norms. Social stigma often leads to marginalization.
Health Policymaking

sumption than men. This is demonstrated in the differences in settings where women and men drink. Women are more likely to drink in private, as opposed to men who more often drink in public places. This contributes to the invisibility of women's alcohol use making it less likely for them to seek help for their alcohol use related problems.

3. **Women, alcohol and violence:** Women are often the direct victims of the harmful consequences of men's drinking since they are commonly the target of aggressive behaviors (Natera et al 1997; Natera et al 2005; Medina Mora et al 1999).

According to a sub-sample of the National Addiction Survey in Mexico in 1998, 47% of the total number of women aged 18 to 65 in the urban area living with their partners reported having been victims of violence at some time in their lives, with alcohol being present in 66% of the cases (Medina Mora et al 1999; Natera and Juarez 2004).

In a multi-country study comparing Brazil, Costa Rica, Uruguay and Argentina, the results showed that a relationship exists between alcohol consumption and domestic violence (Obot and Room 2005). Drinking patterns were related to physical aggression by the perpetrator and attacks received by the victim. Excessive drinkers have greater probabilities to be victims of physical aggression and to attack their partner/spouse than moderate drinkers. However, there are complexities that are not well understood. For example, many acts are committed without alcohol being involved, and it is likely that cultural factors may facilitate more violent behavior under the influence of alcohol.

4. **Alcohol and sexual behavior:** Alcohol consumption is associated with risky sexual behavior. Adolescent girls as well as adult women who are intoxicated are more vulnerable to sexual abuse which contributes to disease burden in terms of acquisition of sexually transmitted infections (STIs), including HIV.

Studies looking at the interaction between alcohol use and sexual behavior that pose risks for STI/HIV infection

in Mexico have shown that alcohol is used as an excuse for irresponsible behavior, including risky sex. The study also demonstrated how alcohol also allows young people and homosexuals to 'build courage to approach a possible sexual partner (WHO 2005).

5. **Alcohol and pregnancy:** A woman's consumption of alcohol during pregnancy can adversely affect the fetus. One consequence of alcohol consumption may be the development of fetal alcohol syndrome, a condition which can cause a variety of health problems in newborns and later on in early childhood. It has also been shown that even sporadic doses of alcohol consumption during pregnancy may increase the risk of congenital abnormalities in newborns and can lead to low birth weight (Jacobson and Jacobson 2002). In addition, women who drink during pregnancy are at increased risk of miscarriage or premature delivery. Heavy drinking may also impair a woman's ability to conceive (Borges et al 1997; Berenzon et al 2007). In a recent study in Uruguay (Magri et al 2007), analysis of 865 meconium samples from pregnant women in 2005 revealed that 47.3% were positive for alcohol but only 35% admitted to drinking during pregnancy.

2.6 Alcohol use disorders

Only a few studies have documented rates of alcohol dependence in the Region. Data reviewed by Medina Mora et al (2005) indicated that in Costa Rica, a household survey in 2000 used the AUDIT (Alcohol Use Disorders Identification Test) and as a result 15% of the population was identified as having hazardous patterns of use, 8% harmful and 3.7% with probable dependence. In Mexico, in a household survey of population 18 to 65 years of age conducted in a city located in Central Mexico using the CAGE in 1996, the proportion found was 22% of the male drinkers and 5% of the female drinkers had a positive score (Medina-Mora et al 2005), which is indicative of alcohol dependence. The recent WHO mental health initiative surveys reported rates of lifetime prevalence for dependence/abuse reaching 3.4% in Mexico (Medina-Mora et al 2004); the annual prevalence rate for Colombia for alcohol dependence/abuse was 2.5% (WHO 2004).

Kohn et al (2005) recently published a comparison of rates of psychiatric problems in the Region including on alcohol dependence, coming from population surveys. These authors report variations of annual prevalence varying between 4.3% in São Paulo and 8.7% in Porto Alegre, Brazil. The rates for other countries were 6.9% for Chile and the same rate for Lima, Peru. Important variations among genders were observed in all countries. In Porto Alegre, the rates were of 15.9% among males and 1.6% among females. In Brasilia, 8.6% and 0.8% respectively and similar differences were observed in Chile (12.1% and 2.2%) and Lima, Peru (12.5% and 1.2%).

In Brazil, Noto et al (2002) analyzed alcohol's role in psychiatric admissions and reported that alcohol-related admissions accounted for 90% to 95% of all substance-related admissions. The treatment gap has not been documented in many countries but data is available for Mexico. In this country household surveys have shown that only a small proportion of the population receives treatment. 17% of the urban population who met the dependence criteria (according to DSM IV)

received treatment in the year previous to the survey (Medina-Mora et al 2004).

As it was shown before, analysis of the burden of disease from alcohol in the region (Rehm et al 2006; Rehm and Monteiro 2005) indicated that alcohol use disorders continue to contribute to most of the year's loss of life to premature death and disability, with over 45% of the total DALYs attributable to alcohol in 2000 and 2002. These are likely to be a reflection of the lack of access to services to treat such problems.

2.7 Conclusion: Alcohol is not an ordinary commodity

Alcohol is a drug with toxic effects and other intrinsic dangers such as intoxication and dependence (Babor et al 2003; WHO 2004c). When consumed in excess, alcohol can lead to death, chronic diseases, accidents, injuries and numerous social problems.

Alcohol Policies

Taking a public health approach to alcohol policy implies the application of appropriate interventions that are most likely to benefit the greatest number of people— it is a population approach. It also implies the assumption that populations consume alcoholic beverages as a result of an interaction between the substance (i.e., alcohol as a psychoactive and toxic substance), personal (e.g. gender, biological traits, personal history) and environmental factors (e.g. alcohol availability, price, promotion). Therefore, principles of epidemiology can be used to assess and better understand alcohol drinking in a population, as well as to provide data to monitor trends, design better interventions and evaluate programs and services, unlike clinical medicine, which focuses on the care and cure of a disease in individual cases (Babor et al 2003).

Alcohol policies can be defined as authoritative decisions made by governments through laws, rules and regulations pertaining to alcohol, health and social welfare (Babor et al 2003; Longest 1998).

"The purpose of alcohol policies is to serve the interests of public health and social well-being through their impact on health and social determinants, such as drinking patterns, the drinking environment, and the health services available to treat problem drinkers" (Babor et al 2003 p7).

Effective alcohol policies should "serve the public good by reducing the widespread costs and pain related to alcohol use" (Edwards et al 1994).

Babor and Caetano summarized the result of an expert consensus panel that rated 32 alcohol policy options used throughout the world to prevent or minimize alcohol related problems. The panel found that while there are many effective alcohol policies some popular strategies (e.g. alcohol education in schools) have little or no impact, while more unpopular options (e.g. alcohol taxes) have good supporting evidence. The table below outlines their findings (Babor and Caetano 2005).

Chisholm et al (2004) made a cost-effectiveness analysis of various policy options in all regions of the world, based on data from the year 2000. The results showed that for the Americas alcohol policies such as taxation, drink driving laws, brief advice and an advertisement ban were cost effective, and the combination of policies would bring the most benefit, as shown in Figure 3.1.

3.1 Alcohol policies in the Americas

Alcohol-related harm issues in the Region have not been matched by well-developed alcohol policies. The range of alcohol policy responses in the Region is broad. Some countries have well developed and sophisticated policy responses to the negative health and social consequences of the harmful use of alcohol but their implementation within the country varies from state to state or from one region to another. Most countries have policies which are compatible with the latest research evidence but they are not enforced in practice.

3.1.1 Minimum age to legally purchase alcohol

Setting minimum legal age limits helps prevent young people from having easy access to alcoholic beverages and has proven to be an effective measure, when enforced. Age limits can be set for buying and/or drinking alcohol, on and off premises, and for each type of beverage.

Among 25 countries surveyed in the Americas⁵, Jamaica and Suriname have age limits at 16 years. Canada and Nicaragua have age restrictions at 19 years and the USA and Chile at 21. All the other countries have age limits at 18 years, for all types of beverages and for both on and off premises sales.

However, it is important to mention that these age limits are for purchasing alcohol only, not necessarily drinking it. Therefore, parents or other adults can buy these products and serve them

⁵ Argentina, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, United States, Uruguay, Venezuela

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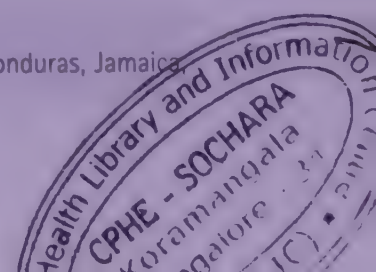


Table 3.1 Expert ratings of policy-relevant strategies and interventions used throughout the world to prevent or minimize alcohol-related problems (a)

| Strategy/Intervention | Overall effectiveness (b) | Cost to implement and sustain (c) | Comments |
|---|---------------------------|-----------------------------------|---|
| 1. Regulating physical availability of alcohol | | | |
| Total ban of sales | +++ | High | Substantial adverse side effects from black market, which is expensive to suppress. Ineffective without enforcement. |
| Minimum legal purchase age | +++ | Low | Reduces hazardous drinking, but does not eliminate drinking. Effective with minimal enforcement, but enforcement substantially increases effectiveness. |
| Rationing | ++ | High | Particularly affects heavy drinkers; difficult to implement |
| Government monopoly on retail sales | +++ | Low | Effective only if operated with public health and public order goals |
| Restrictions on hours and days of sale | ++ | Low | Effective in certain circumstances |
| Restrictions on density of outlets | ++ | Low | Requires a longer time course for implementation when drinking establishments have become concentrated because of vested economic interests |
| Server liability | ++ | Low | Laws making servers legally liable for the damage caused by their intoxicated customers are mostly limited to North America |
| Different availability by alcohol strength | ++ | Low | Mostly tested for beer |
| 2. Taxation | | | |
| Alcohol taxes | +++ | Low | Effectiveness depends on government oversight and control of alcohol production and distribution. High taxes can increase smuggling and illicit production. |
| 3. Altering the drinking context | | | |
| Policy not to serve intoxicated patrons | + | Moderate | Training alone is insufficient. Outside enforcement essential to effectiveness. |
| Training bar staff and managers to prevent and better manage aggression | + | Moderate | Effectiveness depends on continued monitoring of critical incidents. |
| Voluntary codes of bar practice | 0 | Low | Ineffective without enforcement. |
| Enforcement of serving and sales regulations at bars and restaurants | ++ | High | Compliance depends on perceived likelihood of enforcement. |
| Promoting alcohol-free activities and events | 0 | High | Evidence mostly from youth alternative programs. |
| Community mobilization | ++ | High | Sustainability of changes has not been demonstrated |
| 4. Education and persuasion | | | |
| Alcohol education in schools | 0 | High | May increase knowledge and change attitudes but has no sustained effect on drinking. |
| College student education | 0 | High | May increase knowledge and change attitudes but has no effect on drinking. |

| Strategy/Intervention | Overall effectiveness (b) | Cost to implement and sustain (c) | Comments |
|--|---------------------------|-----------------------------------|---|
| Public service announcements (PSAs) | 0 | Moderate | Responsible drinking messages do not deter heavy drinkers; messages to strengthen public support for effective policies may be more fruitful. |
| Warning labels | 0 | Low | Raise awareness but do not change behavior |
| 5. Regulating alcohol promotion | | | |
| Advertising bans | + (d) | Low | Strongly opposed by alcoholic beverage industry; can be circumvented by product placement on TV and in movies. |
| Advertising content controls | ? | Moderate | Often subject to industry self-regulation agreements, which are rarely enforced or monitored. |
| 6. Drink-driving countermeasures | | | |
| Sobriety checkpoints | ++ | Moderate | Effects of police campaigns typically short-term. |
| Random breath testing | ++ | Moderate | Somewhat expensive to implement. Effectiveness depends on number of drivers directly affected. |
| Lowered blood alcohol concentration limits | +++ | Low | Diminishing returns at lower levels (e.g. 0.05%-0.02%) but still significant. |
| Administrative line suspension | ++ | Moderate | Effective as a deterrent to driving while intoxicated because of the swiftness of the punishment |
| Low blood alcohol concentration for young drivers ("zero tolerance") | ++ | Low | Evidence for effectiveness comes mainly from Australia and the USA |
| Graduated licensing for novice drivers | ++ | Low | Studies show that "zero tolerance" provisions deter young drivers from driving after drinking |
| Designated drivers and ride services | 0 | Moderate | May increase awareness of risk and deter small numbers of drunk drivers but have no overall impact on traffic accidents. |
| 7. Treatment and early intervention | | | |
| Brief intervention with at-risk drivers | ++ | Moderate | Primary care practitioners lack training and time to conduct screening and brief interventions. |
| Alcohol problems treatment | + | High | Population reach is low because most countries have limited treatment facilities |
| Mutual help/self-help attendance | + | Low | A feasible, cost-effective complement or alternative to formal treatment in many countries |
| Mandatory treatment of repeat offenders who drive while intoxicated | + | Moderate | Punitive and coercive approaches have time-limited effects, and they sometimes distract attention from more effective interventions. |

a. Adapted from Babor et al. (2003) who were also responsible for the expert ratings.

b. Overall effectiveness represents a summary of three evaluative ratings made by Babor et al 2003. (1) The three were: (1) the extent to which the scientific evidence supports the effectiveness of a particular intervention; (2) breadth of research i.e. the quantity and consistency of the evidence; and (3) the extent to which the evidence applies equally well to different countries, cultural groups, and social classes. The ratings were made according to the following scale: 0 = evidence indicates a lack of effectiveness; + = evidence for limited effectiveness; ++ = evidence for moderate effectiveness; +++ = evidence of a high degree of effectiveness; ? = no studies have been undertaken, or there is insufficient evidence upon which to make a judgment.

c. Refers to the monetary and other costs associated with an intervention, regardless of its effectiveness.

d. Econometric studies find effects of advertising bans, but direct studies of short-term impacts have generally found no effect on total alcohol consumption.

Figure 3.1 Intervention effect on DALYs in regions of the Americas per 1 million per annum

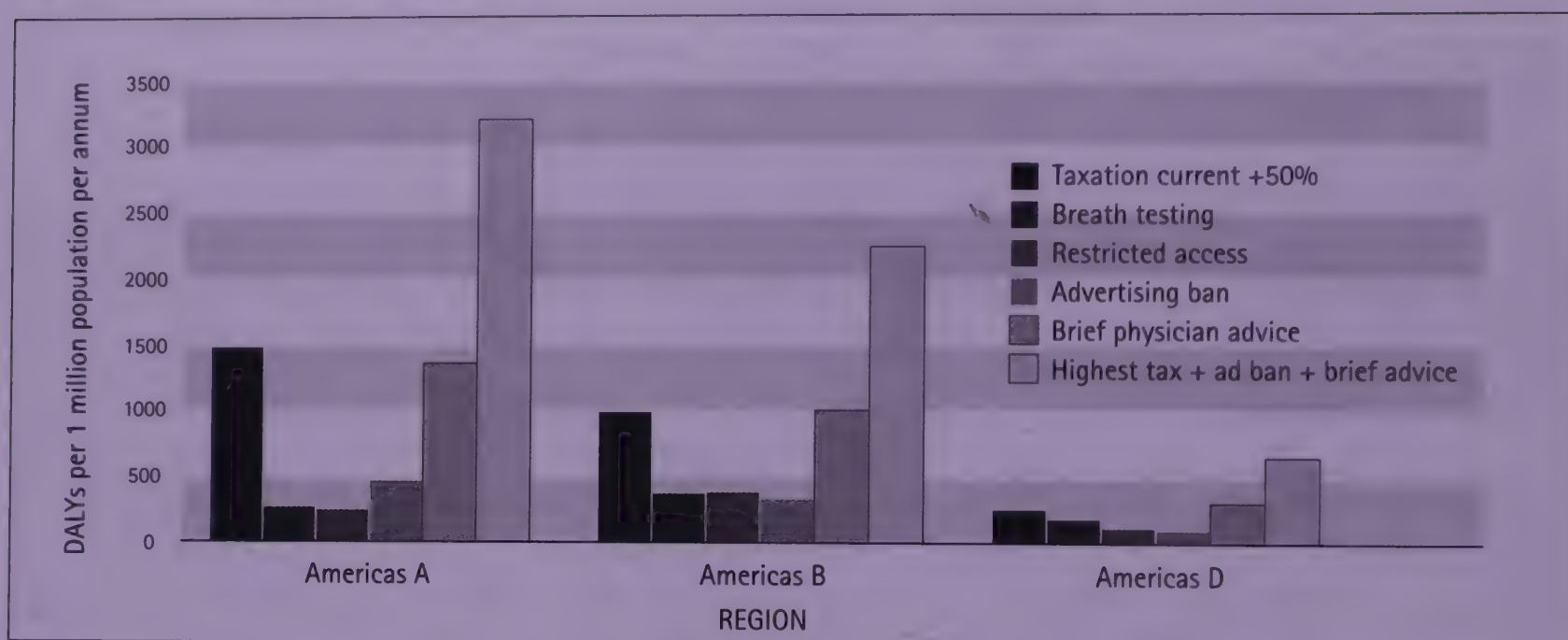
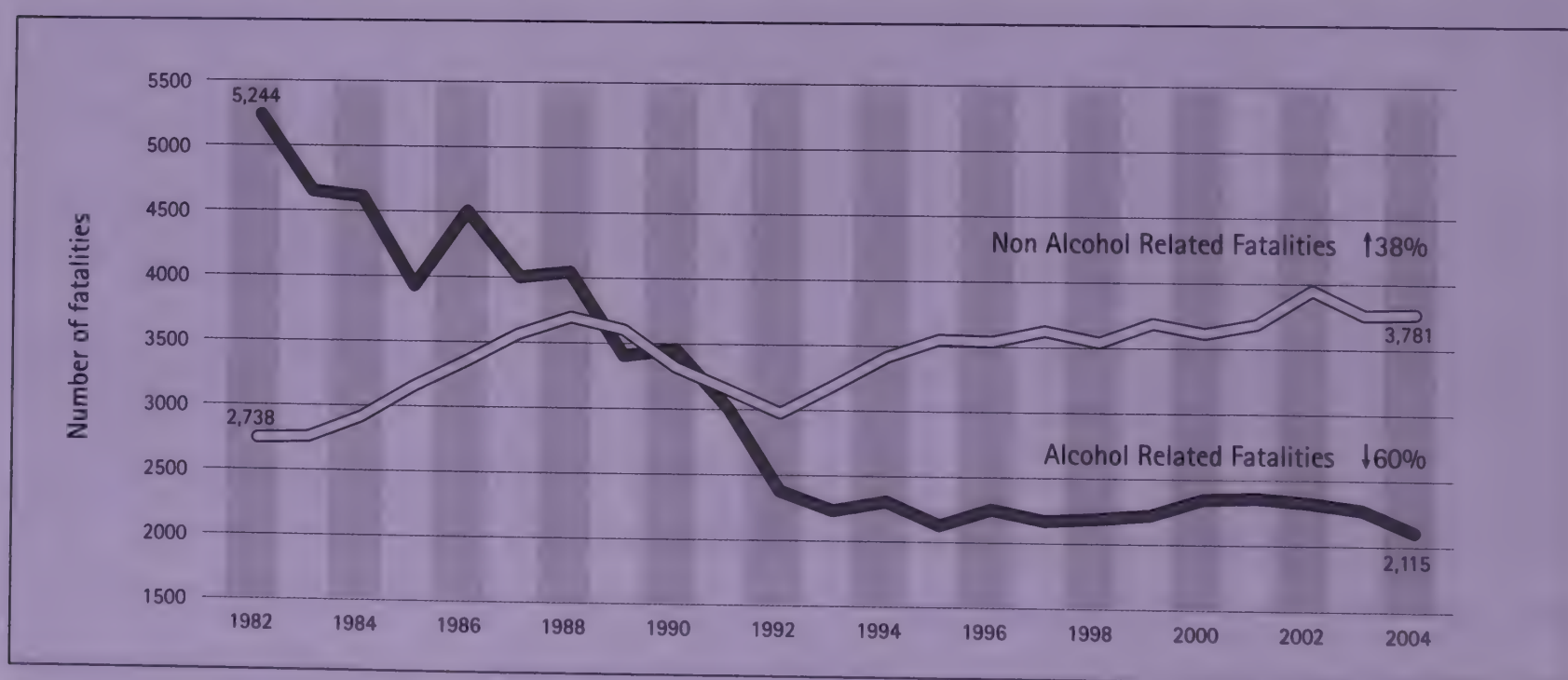


Figure 3.2 Trends in alcohol related and non alcohol related traffic fatalities persons 16-20 U.S. 1982-2004



Source: U.S. Fatality Analysis Reporting System

to young people on premises and off premises, which makes it harder to enforce the law itself. In addition, in practice, it is known that most countries in the Region rarely enforce the age limits.

Regarding the positive effect of raising the minimum drinking age in the US to 21 years of age, the US Centers for Disease Con-

trol and Prevention reviewed 49 studies published in scientific journals on alcohol-related traffic crashes. It was found that traffic accidents increased 10% when the drinking age was lowered and decreased 16% when the drinking age was raised. Figure 3.2 shows the trends in alcohol related and non alcohol related traffic fatalities in persons aged 16-20 in the U.S. from 1982-2004.

3.1.2 *Restrictions on the availability of alcoholic beverages*

Governments can have full control (state monopolies), partial control (licensing system) or no control over the production and sales of alcoholic beverages. Retail state monopolies exist only in Canada (sales of all alcoholic beverages) and parts of the United States. Colombia, Costa Rica and El Salvador have state monopolies only on the production of distilled spirits.

As for licensing systems, all countries except Brazil require a license to produce alcoholic beverages. This requirement is limited to the production of distilled spirits in Trinidad & Tobago. Brazil is also the only country in the Region without a licensing system to sell any type of alcoholic beverages, while in Jamaica, such a system is required for selling wine and distilled spirits but not beer. All the other countries surveyed had a licensing system for selling alcoholic beverages.

3.1.3 *Restrictions on off-premise retail sale*

Governments can also restrict the days, hours and places where alcoholic beverages are sold.

Most countries have some type of restriction over the hours, days and places for alcohol sales, and the only known exception is Brazil where no restrictions currently exist at the national level (except on the day of elections, which is one day in the year, on average every 4 years). The restrictions are, however, very limited and many are not enforced. Only a few countries have some restrictions on the density of outlets: Bolivia, Chile, Costa Rica, Guyana, USA (some states) and Venezuela.

Recently, the Dominican Republic has passed legislation limiting the hours of sale of alcoholic beverages in bars, restaurants, casinos, night clubs, in order to decrease the incidence of violence and traffic accidents. Also in Riobamba, Ecuador legislation limiting the hours and the places for sale and consumption was passed. In La Paz, Bolivia and in Posadas and Tucuman, Argentina legislation was also passed to control the hours of sale of alcohol in order to decrease fatalities.

On the other hand, responses at the municipal level have been implemented effectively and with public support. Restrictions

of the hours of alcohol sales have been implemented and evaluated in Cali, Colombia and Diadema, Brazil, and continue to serve as models for other cities in the region.

As an example, the mayor of Diadema, an industrial city with almost 400,000 people in São Paulo, Brazil, passed a law in 2002 to force the city's 4,800 bars and restaurants to stop selling alcohol between 11pm and 6 am. Since the law was passed, the number of homicides fell by 47.4%, the number of road accidents fell by 30%, the number of assaults against women fell by 55% and the number of alcohol related hospital admissions fell by 80% (Duailibi et al in press). Contrary to popular belief, business has increased after the measure, with more investment in the town and an increase in jobs created. At least 120 other municipalities have followed Diadema's lead, and the whole state of Pernambuco has recently passed a law to the same effect. The federal government is now planning to offer additional funding for law enforcement to towns that restrict drinking and tackle violence.

3.1.4 *Prices and Taxation*

Retail prices of alcoholic beverages are composed of the wholesale price plus profit and other costs. In addition, taxes specific to alcoholic beverages are often added. Taxes often differ according to the strength of the beverage (how much alcohol it has per volume). The data from the Americas region shows that, in summary:

- No taxes: Bahamas, Belize, Costa Rica (as it has a monopoly and set the prices already)
- Taxes vary from 5% (Suriname) to 35% (Colombia), the majority being 10-20%, and according to the type of beverage
- 52% of countries have taxes through excise stamps
- 56% of the countries have taxes as % of retail price
- There is no correlation between prices and taxation.

Overall, prices in the Americas are considered very low, making alcoholic beverages very affordable to everyone. Taxes have not kept up to inflation and therefore should not be seen as an ineffective measure but one that needs regular monitoring/updates to keep its desired effect.

Such policies can be creatively adapted at the local level. One example is the case of the city of Paulinia, Brazil. The city of Paulinia decided to tackle alcohol as a public health issue due to the high prevalence of emergency room visits during the Carnival and public dissatisfaction with increased public disorder occurring among intoxicated youths. The city of Paulina likened the prevalence of emergency room visits and deterioration of public order to the large increase in the number of bars throughout the city.

Paulinia stepped up efforts to enforce laws regarding sales of alcohol beverages to minors and intoxicated people and increased regulation of bar permits and infractions against those who drink and drive. During Carnival in 2003 and 2004, purchasing spirits near the "Sambodromo" and the sale of alcohol to minors was prohibited. In addition, the cost of beer was increased by 100%. The result was staggering: police and medical incidents were reduced nearly 70%.

Currently, the Program "Paulinia Legal" is mobilizing to increase awareness among corporations, public organizations, local commerce and the community of alcohol policy. The program continues to enforce the law prohibiting sales to minors and is working side by side with other public organizations to regulate the operation and functioning of bars and other establishments.

3.1.5 Drinking and driving legislation

As was shown in Table 2.4, injuries are an important cause of death and disability in the region, and traffic accidents are an important source of these injuries.

Limits for Blood Alcohol Levels in the Region

- None: Dominican Republic and Trinidad & Tobago
- 0-0.35%: Colombia, Guyana, Jamaica, Panama
- 0.4-0.6%: Argentina, Brazil, Costa Rica, Chile, El Salvador, Peru, Venezuela
- 0.7% or greater: All other countries

However, most countries do not enforce these limits and the police often do not even have the equipment to measure such levels in drivers potentially under the influence of alcohol. Often there is no legislative provision for when the driver refuses to take a test, and corruption is common. There are no treatment or education programs for repetitive offenders in most countries- they may exist in a few cities within a country but the global database includes only national policies.

It is of note that civil society initiatives can have a tremendous impact in changing policies and norms. In the USA, the non-governmental organization MADD (Mothers Against Drunk Driving) was created to pressure for changes in legislation regulating drinking and driving and alcohol availability, among other measures, which led to the increase in the legal drinking age from 18 to 21 in all states, preventing an estimated 17,000 deaths a year. In Argentina, the NGO *Padres en la Ruta* (www.padresenlaruta.org.ar) works with the police to do alcohol breath testing along the roads at no cost. All the breathalyzers have been donated by private businesses, with community support. They claim to have reduced to zero the number of alcohol related accidents with their systematic interventions.

Interventions at the local level have led to significant reductions in traffic fatalities and injuries. An example is what was done in Cali, Colombia. To decrease traffic deaths (for drivers, passengers and pedestrians) a committee was formed including the mayor, cabinet government members from the sectors of transport and health, the police, fiscal and legal medicine leaders, and universities among others. They had monthly meetings to examine data on homicides, traffic death, suicides and non-intentional deaths and used mapping programs to see exactly where and when these deaths were occurring. This enabled them to create proper prevention policies, which included two actions in particular: (1) stopping motorists and performing breathalyzer tests (and enforcing penalties on those driving with BAC levels above the limit) and (2) enforcing the 2003 "Dry Law" (no drinking permitted after midnight in establishments). This resulted in significant decreases in traffic injury deaths. In Cali and other municipalities in Nariño, the following policies were enforced which also helped decrease traffic and pedestrian accidents:

- helmet and vest usage requirements for motorcyclists
- educational campaigns for drivers and pedestrians
- drunk driving controls
- installing signage on roads.

Cities in Argentina, Mexico and Uruguay have also passed legislation to enforce random breath testing along the roads to reduce traffic injuries.

Finally, only in the USA and Canada there are special measures to decrease traffic injuries related to alcohol such as driver's license suspension or graduated licensing system for new and young drivers.

3.1.6 Screening and Brief Interventions for Alcohol related problems

Screening and brief interventions (SBI) for early problems related to alcohol have not been widely disseminated in any country of the region, despite their demonstrated effectiveness to reduce harmful and hazardous drinking (Babor et al 2003; Chisholm et al 2004). Significant training and dissemination exists in Canada and the USA, and good attempts at disseminating them started in Brazil, Cuba, Dominican Republic, Mexico (Ayala and Echeverria 1997; Ayala et al 1998; Barragán et al 2005) and Panama, all with the goal of integrating them in primary health care system. Other countries have received training from PAHO, including Guatemala, El Salvador, Honduras, Paraguay and Argentina.

Screening for alcohol consumption among patients in primary care carries many potential benefits. It provides an opportunity to educate patients about low-risk consumption levels and the risks of excessive alcohol use. Information about the amount and frequency of alcohol consumption may inform the diagnosis of the patients presenting the condition, and it may alert clinicians to the need to advise patients whose alcohol consumption might adversely affect their use of medications and other aspects of their treatment. Screening also offers the opportunity for practitioners to give brief intervention to those that require.

SBI have also shown to be effective in emergency room settings to reduce alcohol consumption as observed in the reductions in admissions to emergency rooms 12 months later (Cherpitel et al 2006).

3.1.7 Advertising and Sponsorship in the Americas

Exposure [to alcohol advertising] shapes positive perceptions of drinking and can increase heavier *drinking* (WHO 2004).

The alcohol industry often looks to marketing and advertising as a way to boost sales by increasing the public's exposure to a product. This can be seen in the form of television, radio and magazine advertisements or in the form of event sponsorship.

Alcohol advertising has the potential of portraying drinking as socially desirable, or promoting pro-alcohol attitudes, of recruiting new drinkers and of increasing drinking among current drinkers. The messages from alcohol advertisements often ignore the negative effects of alcohol such as health and social risks.

Alcoholic beverage marketers have intensified their targeting of young drinkers in recent years, introducing an array of inexpensive products such as alcopops, alcoholic "energy" drinks, pre-mixed cocktails, and so on, with recipes and packaging designed to appeal to young people. Marketing has played a critical role in the global convergence of patterns of alcohol use. In developed and developing countries, marketing activities include contests, games, cartoons on worldwide web pages; use of popular music and the issue of alcohol-branded CD's; promotions in hip clubs and magazines oriented to young people; sponsorship of sporting events; and the creation of alcohol-branded CD and comic book stores. Such marketing activities in developing countries diffuse in an environment with few of the health and safety protections available in developed countries (WHO 2001).

While much of the research on the impact of alcohol advertising is not conclusive, the World Health Organization states that "increasing evidence can be found that exposure shapes positive perceptions of drinking and can increase heavier drinking. Therefore, it seems that restrictions on advertising and sponsorship should be part of a comprehensive alcohol policy, especially when it is targeted at young people" (WHO 2004). In 2003, the National Research Council/Institute of Medicine (NRC/IOM 2003) published a landmark report pro-

viding evidence of the impact of advertising and marketing on youth drinking and calling on the US Department of Health and Human Services to monitor the advertising and marketing practices of the alcohol industry and to report periodically to the Congress and the public (NRC/IOM 2003).

a) Alcohol advertising in the Americas

Between 2001 and 2005 the drinks industry in the US increased its spending on alcohol ads and increased the number of alcohol ads by over 30% respectively (CAMY 2005). Within a similar time period (2002-2005) the number of Americans aged 12 or older who reported being drinkers of alcohol increased by 5 million (SAMHSA 2006).

In the US alone, between 2001 and 2005, the drinks industry spent \$4.7 billion to place 1.4 million advertisements for alcoholic beverages on television alone. An analysis of those advertisements found that in the wake of a 32% increase in spending on televised alcohol ads and a 34% increase in the number of alcohol ads on television from 2001 to 2005, youth (ages 12 to 20) exposure to those ads increased by 41%, young adults (ages 21 to 34) exposure increased by 39% and adult (Age 21+) increased by 48% (CAMY 2005).

During a similar time period (2002-2005) the number of Americans aged 12 or older who reported being current drinkers of alcohol increased by 5 million from 121 million (50.3%) in 2002 to 126 million (51.8%) in 2005 (SAMHSA 2006).

In 2004, Hispanic youth aged 12-20 in the US were exposed to 20%-74% more alcohol advertising in English magazines, in radio, as compared to all youth, indicating that they are being targeted by alcohol producers, as Hispanics constitute the fastest growing ethnic group in the United States and are comparatively younger than the general population (Caetano and Wool 2005).

The World Health Organization recommends restrictions on alcohol advertising and sponsorship, and a few countries

have bans on certain media and for certain beverages. The Bahamas has a ban on national TV and radio for spirits. Venezuela has a ban on national TV and radio for all beverages and restrictions in print media and billboards. There were no restrictions on national TV, radio, print media and billboards, for beer, wine and spirits, reported for Canada, El Salvador, Guyana, Jamaica, Suriname, Trinidad and Tobago, or Uruguay. In Brazil, restrictions apply for spirits on national TV and radio. In Peru, such restrictions apply for wines and spirits on national TV and radio.

In Nicaragua and the US, voluntary codes or self-regulation by the industry are the norm for all media. Chile has voluntary codes in national radio. All the other countries have partial restrictions (e.g. hours, type of programs or media, saturation limits and place of advertisement) for all beverages and in some media (e.g. Mexico has partial restrictions only in national TV and no restrictions in the rest).

b) Alcohol sponsorship in the Americas

Sponsorships are an important part of alcohol marketing and promotion designed to expand the market, often directly targeting young people and other vulnerable groups. Sponsorship covers sports events, youth events, concerts, cultural events, and national events or celebrations, helping alcohol drinking to become an essential part of life in a society.

Sponsorship of events is positive for the alcohol industry for many reasons: it opens up doors politically and the industry is seen as a corporate "good citizen"; bridges cultural differences in the global-local market (invest in/capitalize on favorite local events and brands); formulates strategic alliances (with suppliers, distributors, and other key groups); permits the exploitation of under-developed markets (that will respond to the sponsorship techniques developed in mature markets); and locks out other competitors.

Guatemala and Costa Rica have a ban on sponsorship in sports and youth events. Panama and Venezuela have a ban on the sponsorship of youth events only. Argentina, Bolivia, Colombia, Dominican Republic, Ecuador, Mexico,

Paraguay and Venezuela have partial restrictions on sponsorship for sport and youth events. Belize and Canada have partial restrictions in youth events. Brazil has voluntary restrictions in sports events only regarding spirits. USA has voluntary restrictions in youth events for all kinds of beverages. All other countries have no restrictions. However, the countries that do have restrictions do not have independent grievance panels or consumer boards to enforce legislation and it is perceived that the level of enforcement is rather low.

Argentina, Belize, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay and Venezuela have health warnings on advertisements.

3.1.8 *Alcohol free environments*

Restricting alcohol consumption in public places could reduce some alcohol related harm, including those related to driving. Despite the limited effectiveness of such restrictions, they could help in the development of social norms regarding alcohol consumption, to counterbalance the perception that alcohol has only positive effects and can be combined with any other activity. There are some restrictions on drinking in official/government buildings/venues, public transportation, health and educational establishments and in parks, streets, beaches, during sports and other leisure activities in about 50% of the countries surveyed. However, there is no information about their level of enforcement or whether findings at the national level have been generalized.

3.1.9 *Prevention, Treatment and Human Resources Training*

The provision of community-based treatment and care is largely lacking and needs to be intensified. There is a lack of comprehensive intervention for alcohol-use disorders, with acute detoxification treatment for alcohol dependence being the most provided treatment. Community-based prevention, rehabilitation and relapse prevention are often not available because of a lack of expertise or of funding support. General Practitioners (GPs) in some countries have met difficulties in dealing with alcohol-related disease, especially in early detection and early intervention, due to lack of available training and support.

Appropriate programs for capacity development (training of health professionals during academic years or continued education after graduation or on the job training, among other forms of professional education) are lacking. Alcohol problems are not well recognized in many countries. Undergraduate and postgraduate training are not adequately conducted in most countries to meet the impending needs in clinical practice. The lack of professionals and non-professionals trained in the prevention, treatment and/or rehabilitation of alcohol use disorders often prevent the implementation of effective prevention, treatment and rehabilitation programs. Moreover, alcohol is not taught as a public health topic, so responses continue to be promoted only for those with a specific clinical diagnosis. Finally, strengthening the health professional capacity requires an assessment of financial, technical and human resources available and needed to do so, so investments are not made without a clear picture of their public health impact in the short and long term.

Challenges/Barriers facing alcohol policies

4.1 Alcohol production and Trade

Alcohol consumption creates strong profits for alcoholic beverage producers, advertisers and the hospitality industry produces significant tax revenues for governments. Alcoholic beverages, particularly wine and beer, are also considered agricultural products in developed and developing countries and have a role in the agricultural economies of these countries. Beer and distilled spirits can be industrially produced as well, and their regulation may fall under the ministry of industry. Herein lies the conflict of interest for governments who need the revenue generated from alcohol sales but also have a duty to look after and protect their populations' health and well being. It takes strong political leadership to implement effective alcohol policies despite often vigorous challenges by the alcohol industry.

While many alcohol producers have certain public health obligations (e.g. quality control, health warnings) their main goals are often at odds with those of public health. Of particular concern is the globalization of the alcohol market where companies seeking an expansion of their market and therefore an increased availability and consumption of alcohol.

Unregulated alcohol production (from home production or informal or illicit production) is fairly common in several countries of the region, being a source of income to poor families, and a source of very cheap alcohol for consumption. This market is sometimes responsible for products of unknown or poor quality and safety, and there are reports of fatalities and non fatal poisonings with beverages containing methanol and other additives which can be harmful to health (as, for example, the massive intoxication with methanol mixed with alcoholic beverages in Nicaragua, leading to over 40 deaths and hundreds of people with a range of sequelae). Therefore, where such markets are significant, prices and taxation policies should come along with policies to regulate such markets and enforce those regulations.

One example is the consumption of 96° *alcohol* as an alcoholic beverage in Mexico, reported by 2.5% of the population aged 12- 65 years in the 2002 National Addiction Survey, consumption being considerably higher among the rural (4.9%) compared to the urban population (1.7%) (Medina Mora et al 2004). In 2002, consumption of this product accounted for 13.7% of the total per capita of alcohol. In 2004, a new legislation preventing the commercialization of 96° proof alcohol and its non-denaturalized retail sale, consumption was expected to decrease as a result.

Pulque is a locally produced *fermented beverage*, obtained from the fermentation of the sap obtained from the Mexican agave, which is also not included in recorded consumption statistics. Data from the National Survey 2002 (Medina Mora et al 2004) estimated that 3.4% of the population consumed *pulque* in the year prior to the study. It is estimated that it has approximately 5% alcohol content, it accounted for 7.4% of per capita consumption of pure ethanol.

4.1.1 Globalization of the alcohol market

Alcohol is a commodity that is demanded, purchased, and consumed globally (Babor et al 2003). Globalization can be defined as the tendency of businesses to move beyond domestic and national markets to other markets around the globe. To support a transnational product, marketing plays a critical role in making it an integral part of the lifestyle of the target user, and to create an intimate relationship between the user and the product (WHO 2001).

Globalized alcoholic beverages are beverages produced within the networks of transnational corporations. Although production may be decentralized, the recipes are held centrally in the parent corporation, and are tightly controlled. The Top 10 global producers now control more than 50% of the global market of alcoholic beverages. The concentration in the global beer market from 1979-2005 is shown in Figure 4.1.

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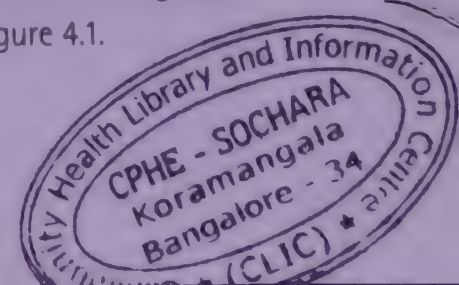
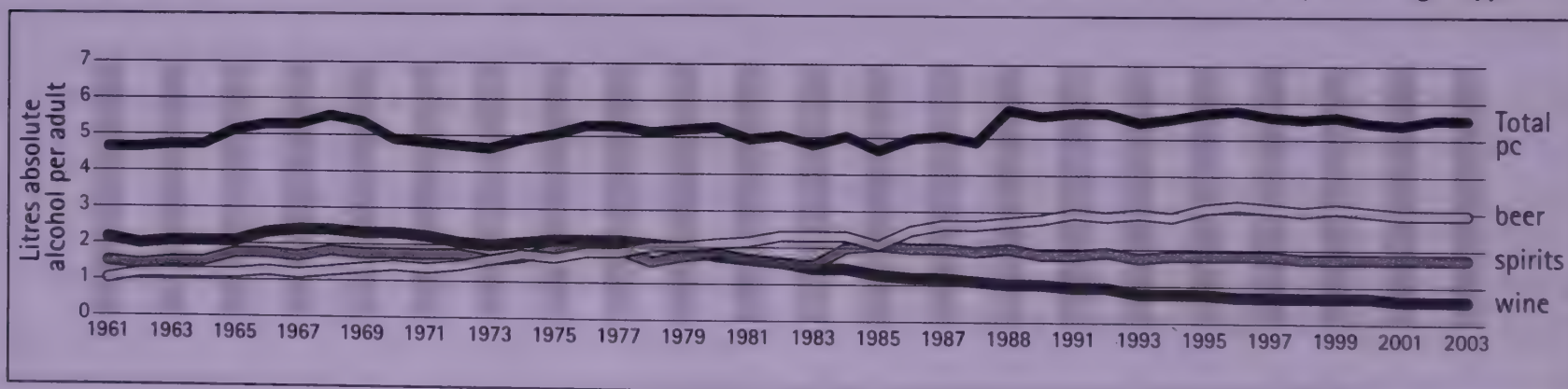


Figure 4.1 Concentration in the global beer market 1979-2005

| Corporation | Country | Global Market Share | |
|---|-------------|-------------------------------------|-----------|
| | | 1979/80 | 2004 |
| Inbev | Belgium | * | 13.9% (1) |
| SABMiller | UK | 4.83% (2-Miller), 0.93% (17-SAB) | 12.0% (2) |
| Anheuser-Busch | USA | 6.48% (1) | 10.8% (3) |
| Heineken NV | Netherlands | 2.84% (4) | 7.6% (4) |
| Carlsberg Breweries A/S | Denmark | 3.08% (3) | 4.3% (5) |
| Molson Coors Brewing Co. | USA | + | 4.0% (6) |
| Scottish Courage | UK | + | 3.4% (7) |
| Grupo Modelo | Mexico | 1.34% (12) | 2.9% (8) |
| Kirin | Japan | * | 2.5% (9) |
| Baltic Beverages Holding | Russia | * | 2.5% (10) |
| Total Market Share of Top Ten Companies | | 27.99% | 63.90% |

Figure 4.2 Recorded Adult 15+ Per Capita Alcohol Consumption in Central and South America by Beverage Type



Transnational corporations are constantly interested in expanding their markets to increase profits. Developed country markets have "matured", and consumption is either stagnant or falling. The so-called developing regions are where the global alcohol producers have identified potential for growth. Of particular interest are the "BRIC" countries – Brazil, Russia, India and China – and there has been a rapid movement of the global producers to establish themselves in these markets, by buying up local companies or establishing local partnerships in these countries. Central and South America show a slight increase in recorded adult per capita consumption over the past 40 years. However, within this overall trend there are

important sub-trends in beverage preference: wine consumption has declined dramatically, beer consumption has risen substantially, and distilled spirits consumption has also seen a significant increase (Figure 4.2).

Globalization increases the efficiency of brewing and creates substantial economies of scale. This gives the global production networks substantial advantages over local producers. It permits them to employ monopoly pricing and drive up profits in markets they dominate, and to undercut pricing in other markets in order to achieve dominance. The goals of the global producers are often at odds with those of public health. They seek to maximize profits and to expand the market and avail-

ability of alcohol. One strategy practiced by companies is to increase alcohol consumption in groups that have traditionally drunk less than the general population – for example, women in many parts of the world, or ethnic or racial minorities.

Globalization may thus be contributing to worsening drinking patterns and problems, often in settings with the fewest resources to counter them. Also, major international alcohol corporations are using sport and event sponsorship in increasingly multi-functional ways to gain competitive advantage in the emerging global market.

There are some advantages to globalization for public health: globalized producers can more reliably maintain quality control than small or informal producers. With fewer producers, it can be easier to establish controls over the market, to levy taxation and place controls on distribution.

One caveat is that higher prices may lead to a shift in consumption from legally to illegally produced beverages. Whatever jobs and taxes are actually realized may be lost due to the harmful impact of alcohol on the public's health.

Globalized alcohol's contribution to economic and social development, however, is quite mixed. As industrially-produced beverages have gained ground worldwide, the industry has become more efficient, with the result that far fewer people are actually employed in alcohol production.

Most alcohol-related employment is at the retail level, and if this rises, it is likely that consumption and problems may also be rising. If consumption falls, however, it is not automatic that this retail employment will fall, since much of the employment is in the hospitality sector which will presumably continue to serve food and drinks of some kind.

Although the international trade of alcoholic beverages occurs mostly between developed countries, Mexico is among the 10 top exporting countries (both for beer and spirits) and Chile and Argentina are among the 10 top exporters of wine.

Important efforts to consolidate markets and gain in efficiency resulted in a steady development of the beer industry in the region. International brands have ventured in the Latin

American market through merges and joint-ventures with local industries such as Quilmes in Argentina, Ambev in Brazil and Bavaria in Colombia (CEPAL 2006).

4.2 International trade agreements

Trade agreements need to reflect alcohol's special nature as a commodity, and to protect national and local ability to control alcohol markets.

The international trade agreement General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS) classify alcohol as a regular commodity, however alcohol is a potentially dependence producing psychoactive substance.

Enforcement of these trade agreements by the World Trade Organization (WTO) has led to a weakening of public health-based alcohol controls in developed and developing nations (Caetano & Laranjeiras, 2006; Monteiro & Levav, 2006). One of the core principles of the GATT and WTO is that participating countries have to extend the most favored treatment that is afforded to domestic buyers and sellers to buyers and sellers from foreign signatories (Babor et al 2004). Some international agreements have extended this "national treatment" principle beyond goods, to include services and investments. This obligation constrains government measures developed to control alcohol as a special commodity, thus complicating policies that control advertising, taxes and access to alcoholic beverages, among others.

Health professionals and policy makers need to become more involved in trade policy formation and to determine how current trade rules affect not only the present but also the future of health. It is necessary to examine international trade constraints on public health alcohol initiatives, prevent alcohol liberalization and to be aware of your country's position in current GATS negotiations. Trade agreements need to reflect alcohol's special nature as a commodity, and to protect national and local ability to control alcohol markets, within the framework of trade and health approved by the World Health Assembly.

4.3 Impact in developing countries

The Region has other significant challenges, related to sustainable development, decreasing poverty and improving standards of living. These, however, often lead to greater access to retailed alcoholic beverages at very low prices, thus leading to an increase in consumption, and to an increase in harmful use of alcohol. Alcohol promotion and the low awareness about the negative consequences of drinking, combined with the lack of health services leave those affected without means of recovering or making healthier choices.

Several countries in the Region are large producers of alcoholic beverages, and tax revenues from sales provide governments with a significant source of funds. However, even in countries like the US and Canada, where alcohol profits are considerable, analysis of the costs of alcohol misuse indicate that they are much higher than the revenues they generate. Cost analysis studies have not been done in developing countries, except for a pilot study in Colombia, which analyzed the costs of alcohol and drugs together, indicating that most of the costs from substance abuse come from alcohol and not illicit drugs.

It is estimated that in many of the developing countries, the consumption of home brewed or distilled spirits, illicitly produced or smuggled alcoholic beverages continues alongside the consumption of commercially produced alcoholic beverages. This is a challenge both in terms of knowledge, as this consumption is difficult to record, and in terms of public safety, as its production or quality are not regulated. In most Latin American countries, for example, it is estimated that 11-55% of all alcohol consumption is unrecorded (WHO 2004).

4.4 Culture

In most parts of the Region, alcoholic beverages were known and used before contact with the European imperial expansion of the last 500 years. For most of their history of several thousands years, alcoholic beverages have been produced mainly locally at the level of household or small community, using local raw materials and methods that have been handed down from generation to generation. These beverages, produced from grain, fruit or other organic materials, were nearly always fermented

and contained at most a few percent of ethanol. They included wine, beer, cider, mead and a variety of other beverages produced in particular regions. Beers, ciders, *chicha*⁶ and mead could not be kept for very long, and means of transportation were limited. So what was produced was usually consumed soon and locally. For the most part, the beverages were not sold on the market. They were consumed within the household, given away as a sign of generosity and hospitality, or shared at communal festivals and within local circles of exchange, to celebrate the completion of harvest or a joint work project. The production of alcohol presupposes the existence of an agricultural surplus above the minimum necessary for survival. For this reason, as well as because of their intoxicating power, alcoholic beverages were in many societies regarded as special commodities. Their consumption was often restricted to particular population groups, to specific occasions, or to religious ceremonies (Mandelbaum 1979).

In the beginning of the 16th century, the advent of distillation on a commercial scale transformed the availability of alcoholic beverages to all the times of the year, whatever the climate. Distilled beverages became a major item in colonial trade (Pan 1975). Rum flowed from the Caribbean to North America, and cheaper varieties of industrial alcohol, so called, "trade spirits", were exported from Europe. There are a number of such beverages in the Region, including *aguardiente*, *cachaça*⁷, *pulque*, *pisco*, etc.

Measures to restrict and control the availability of alcohol have also been common. In tribal and village societies, access to drinking alcoholic beverages has often been limited to particular festivals or occasions, and/or to particular social statuses. On the other hand, the process of colonization led to the use of alcohol as a means of exploitation, and the traditional use of alcoholic beverages lost most of its cultural meaning. Close contact with urban populations and acculturation led to widespread use and access to alcoholic beverages, along with severe health and social problems related to alcohol consumption, compounded by poverty. In 2002, in an indigenous community of Venezuela, Seale and colleagues (2002) reported very high rates of alcohol use (86.5% of all men and 7.5% of all women reported to be heavy alcohol users), while focus group discussions revealed that "traditional patterns of binge drinking of corn liquor had gradually been replaced by consumption of commercial beer and rum at more frequent intervals and with more negative social consequences."

⁶ Fermented beverage made of maize commonly used in Peru

⁷ Distilled beverage made from sugar cane commonly used in Brazil

Basis for Action

"10 Building Blocks to Reduce Alcohol-related Harm"

The regional alcohol situation and the gap in alcohol policy in the Region both demonstrate the need for a consistent, comprehensive and effective approach to addressing alcohol-related harm among countries in the Region.

The Americas surpass global average statistics for:

1. alcohol related deaths,
2. alcohol consumption,
3. alcohol drinking patterns,
4. alcohol use disorders and
5. alcohol is the leading risk factor for the burden of disease in the Region.

There have been several attempts in the Region to strengthen global, regional and national efforts to reduce alcohol related harms and consumption. These include:

1. Participants of a network of 45 NGOs from 17 countries in the region, **RIOD (Red Iberoamericana de ONGs en Drogodependencias)**, met in June 2003 in Antigua, Guatemala, at the VI Seminario Iberoamericano sobre Drogas y Cooperación: La Prevención del Alcoholismo en el Contexto de las ONGs de RIOD. Participants signed the *Antigua Declaration* (<http://www.riod.org/contenidos/Documentos/Declaracion Antigua.pdf>), on the Prevention of Alcohol Abuse in Iberoamerica, asking governments, international organizations and UN Agencies to step up efforts to control alcohol consumption in the region.
2. The need to control alcohol consumption in the region was expressed by participants of the **First Pan American Conference on Alcohol Public Policies**, held in Brasilia, Brasil, from 28-30 November 2005. The conference was organized by the Brazilian government with the support of PAHO and had 110 participants from 26 countries, in-

cluding scientists, public health officials, representatives of NGOs and others from civil society. Participants approved by consensus the *Brasilia Declaration* (see Annex 1), which recommends that alcohol be considered a public health priority in the region and regional and national efforts be made to implement effective policies (Caetano and Monteiro, 2006).

3. In May 2005, the **World Health Assembly Resolution (WHA) 58.26 of the World Health Organization**, urged Member States to develop, implement and evaluate effective strategies and programs for reducing the negative health and social consequences of the harmful use of alcohol, and requested the Director General to step up efforts to reduce harmful consumption of alcohol. Such global action can strengthen a regional effort at reducing harmful consumption of alcohol (see Annex 2).

PAHO/WHO considers that the best way to reduce alcohol related harm in the Americas is to assist countries to implement a comprehensive and effective alcohol policy response. PAHO/WHO can also take on a coordinating role in developing a regional strategy, with the necessary tools, materials and technical support needed to bring countries together to work on a set of common goals and objectives to prevent and reduce alcohol related harms in the region.

The following "**10 Building Blocks**" form the *basis* for a comprehensive and effective alcohol policy. They address:

- a) the availability of alcoholic beverages,
- b) the demand for alcoholic beverages,
- c) appropriate responses to address the harms caused, and
- d) the need to develop mechanisms to facilitate and sustain efforts to reduce alcohol-related harm.

They are based on the latest review of the evidence of effectiveness of a wide range of alcohol policies sponsored by the WHO and published by Oxford (Babor et al 2003) and an analysis of cost-effectiveness of different interventions to reduce alcohol related mortality and morbidity (Chisholm et al 2004). A WHO expert committee on problems related to alcohol consumption also reviewed the literature and prepared a report which will soon be published, but a summary was presented to the World Health Assembly in 2007 (WHA A60/14 2007)

BUILDING BLOCK 1

Establish legislative and regulatory mechanisms for the production, importation, retailing, availability and consumption of alcoholic beverages, including a minimum age limit for the consumption and purchase of alcoholic beverages; restrictions on the hours, days and places where alcoholic beverages are sold; restrictions on the density of outlets; a licensing system for the regulation of retailers and wholesalers of alcoholic beverages, providing mechanisms to sanction them for any actions that promote or encourage the negative health and social consequences of the harmful use of alcohol; importation licenses; regulation of the illicit market; quality standards for alcoholic beverages. **Strengthen enforcement agencies** appropriately to enforce the regulation of alcoholic beverages.

BUILDING BLOCK 2

Establish an **alcohol taxation system** with a clear goal of reducing alcohol related harms, based on alcohol content to provide a useful tool to raise the cost of beverages in direct relation to their potential for alcohol related harm. Use percentage of revenues to finance prevention and treatment related programs.

BUILDING BLOCK 3

Regulate or ban alcohol advertising and promotion on broadcast, internet, print, billboard media and at cultural, youth and sporting events, particularly in relation to its impact on young people, charged to a government agency or independent body with responsibility for the monitoring and enforcement of any regulations or ban.

BUILDING BLOCK 4

Address drinking and driving through measures to set and enforce blood alcohol levels, including a low blood alcohol content (0 – 0.05 % BAC) for driving; zero tolerance for new drivers; random breath testing; sobriety check points; administrative licence suspension;

BUILDING BLOCK 5

Integrate and disseminate **screening and brief interventions in primary healthcare** for early alcohol problems, and provide education and training of health professionals on their routine use.

BUILDING BLOCK 6

Develop **treatment health systems** to respond to the whole range of alcohol related problems, integrated into the general health system, accessible and affordable to those in need.

BUILDING BLOCK 7

Develop information systems to track alcohol consumption and alcohol related problems as a way of monitoring the implementation and effectiveness of policy changes.

BUILDING BLOCK 8

Raise **public awareness** and **support for** effective alcohol policies, and improve public education on alcohol related harms and effective responses.

BUILDING BLOCK 9

Support and resource community actions to develop ways for the community, and the groups within it, to address their own alcohol related problems.

BUILDING BLOCK 10

Consider **alcohol as a special commodity in trade agreements**, as a way to protect national and local ability to control alcohol markets and public health, considering the general framework of trade and health as approved by the World Health Assembly.

5.1 PAHO's role

PAHO has existing areas of work that can contribute to and benefit from a coordinated strategy. They include, among others, violence and injury prevention, mental health, tobacco control, non-communicable disease prevention, nutrition and health, gender and health, child and adolescent health, indigenous health and health promotion.

Member States have called for actions to reduce the problems related to alcoholism at the Directing Council of PAHO on several occasions: 1925, 1927, 1934, 1966 and 1974. Since 1974, significant scientific knowledge has been gained on the effects of alcohol on health, on public health, and what strategies are effective and cost-effective in reducing harmful consumption of alcohol. In the meantime, alcohol consumption has increased substantially in the region (in some countries like Mexico and Brazil, by more than 50%) and while public health interventions to reduce the impact of such consumption did not follow.

A regional strategy can promote, support and coordinate the implementation of best practice approaches to reduce alcohol-related harm in countries of the Region, using the "Building Blocks" proposed above. PAHO, CICAD and other UN agencies are already working in a number of areas that are associated to some extent with reducing the harm caused by alcohol use. A regional strategy is aimed essentially at improving health by reducing the harm caused by the use of alcohol in a coordinated and achievable way. It contributes to other strategies and in turn the goals of this strategy are furthered by other areas of work being undertaken by the PAHO, CICAD and other UN Agencies.

The following *existing* areas of work at PAHO can contribute to and benefit from a regional coordinated strategy, and include, among others, violence and injury prevention, mental health, tobacco control, non-communicable disease prevention, gender and health, child and adolescent health, indigenous health and health promotion.

Alcohol is a key cause of both violence and injury. The PAHO *Program on violence and injury prevention* addresses a number of violence and injury issues that are strongly related to harmful alcohol use, including domestic violence, traffic injuries, drowning and suicide. Increasing understanding of violence and injury prevention and cooperation on these issues by countries in the Region will help to address some of the goals of the alcohol strategy, and the alcohol strategy should ideally contribute to a reduction in some aspects of violence and injury in the Region.

Adolescent, child and reproductive health work that the PAHO/WHO is conducting in the Region has relevance to the alcohol strategy work. For adolescents alcohol is a key cause of unsafe sex, which can lead to HIV, STDs and unwanted pregnancies. Also for adolescents, the dangers of violence and injury are heightened when associated with alcohol use. Women who use alcohol when pregnant can have an impact on their unborn children, which can lead to child health issues such as Fetal Alcohol Syndrome and Fetal Alcohol Effects. Therefore work on the alcohol strategy will help improve adolescent, child and reproductive health.

The *Regional Strategy for Mental Health* has set three basic goals: to reduce the human, social and economic burden produced by mental and neurological disorders including intellectual disability and substance abuse and dependence; to promote mental health; and, to give appropriate attention to psychosocial aspects of health care and the improvement of quality of life. Alcohol is a contributor to mental illness, and in particular has an impact on suicide, both in terms of the suicide ideation and in terms of shortening the time between ideation and action. Alcohol dependence is also a key mental health disorder affecting about 10% of the general population in several countries. By coordinating actions taken to address alcohol dependence and alcohol assisted suicide in both strategies significant synergies can be achieved in addressing these aspects of mental health and alcohol use issues.

The *WHO Framework Convention for Tobacco Control* is a public health treaty that sets out actions that countries agree to undertake to reduce tobacco consumption. Alcohol and tobacco

are often used together, and a reduction in the use of one may effect consumption and harm related to the other. Although alcohol and tobacco issues differ in many regards, they also have numerous similarities. The tobacco control framework provides examples and lessons for the approach that is taken in this document to reduce alcohol related harm.

The regional strategy and plan of action on an *Integrated Approach to Prevention and Control of Chronic Disease including diet and physical activity* that has been approved by Member States in September 2006, notes that alcohol consumption is an important risk factor for non-communicable disease burden, particularly through its effects on hypertension, hyperlipidemia, cirrhosis and cancer of the liver. This strategy also makes recommendations for an integrated approach to addressing NCD issues, including advocacy for key elements of alcohol policy which will have a significant impact on NCD burden; integrated behavioural risk factor surveillance (BRFS) through the standard PAHO/WHO STEPS methodology, which includes alcohol use questions; and integrated management of chronic diseases and risk factors, including counselling to reduce or stop consuming alcohol consumption for patients with alcohol-related chronic diseases. This is an opportunity for combining resources and approaches to address both NCD and other alcohol-related harms. The health policy levers identified in the NCD strategy document are largely the same levers recommended in the present document, therefore there are significant synergies that can be made in the implementation of both the NCD and the alcohol strategy recommendations.

The *Unit on Health Determinants and Policies* Works with factors related to behavior and lifestyle, of which alcohol consumption has a great importance. It aims at fostering links between social policies, governance and health and contributing to a health promotion strategy in healthy environments, particularly schools, universities and training centers for adolescents with a perspective on gender, the life cycle, ethnicity and poverty.

In *risk factor surveillance*, PAHO/WHO has been collaborating with CDC on the global school-based student health sur-

vey (GSHS), gathering information on several risk behaviors among school students aged 13-15 years, in a number of countries. The core questionnaire includes questions on alcohol consumption, and the regional questionnaire has expanded to include more questions in this module. Surveys are being conducted in Guatemala, Ecuador, Colombia, Uruguay, Peru, St. Vincent & Grenadines, St. Lucia, Trinidad & Tobago, and Cayman Islands.

Health Promotion supports a "health in all policies" strategy which includes an inter-ministerial and intersectoral approach to reducing alcohol production and consumption. Health Promotion also includes the mobilization, empowerment and active participation of national and local authorities, NGOs and other stakeholders to promote healthy public policies, which may include alcohol and will promote effective legislation, regulation, law enforcement, services and resource allocation.

In the fourth *Healing Our Spirit Worldwide* gathering, held September 2-6, 2002, indigenous people from North, Central, and South America; Australia and New Zealand, assembled to develop and distribute a covenant that sets forth the declarations, considerations, and commitments for fighting alcohol and substance abuse among their communities by preventing, treating and rehabilitating individuals, their families and communities from alcohol related problems.

In 2004, the unit on *Alcohol and Substance Abuse* of PAHO, through a grant from IKM, sponsored a multicentric study on alcohol, gender, culture and harm, aimed at comparing data from 10 countries in the region (Argentina, Brazil, Belize, Canada, Costa Rica, Mexico, Nicaragua, Peru, United States and Uruguay), which collected comparable information from general population surveys of the adult population on alcohol consumption and related problems. The final report will be published by the end of 2007, while dissemination of findings at country levels has been already undertaken.

Since 2004, the unit has published and disseminated several key documents related to alcohol: *International Guidelines for Monitoring Alcohol Consumption and Related Harm* (English, Spanish); *What you need to know about*

alcohol policy (English, Spanish; Portuguese); Manual on the Alcohol Use Disorders Screening Test (AUDIT) and Brief Interventions for Alcohol Problems (Spanish), Alcohol and the Health of Indigenous Peoples (2006) and produced 2 Public Service Announcements related to Alcohol (for dissemination in 2007). It has also provided training for health care professionals in primary care on brief interventions in Cuba, Guatemala, Dominican Republic, Panama and Bolivia. It has supported NGO meetings, and worked closely with WHO/HQ on alcohol policy issues following the WHA resolution 58.26.

In 2005, the same unit has provided support to the Brazilian Government for the First Pan American Conference on Alcohol Public Policies (see Annex 1 for the Brasilia Declaration), and participated in regional conferences on mental health and on traffic safety.

In 2005, *Perspectives in Health* published an article about the toll of alcohol in the region ("The problem with drinking" Vol 10, Number 1, 2005) providing an overview of the impact of over consumption on health and alerting that the public health impact of alcohol goes beyond alcohol dependence. In the same year, a special issue of the Pan American Journal of Public Health (Vol. 18 No. 4-5) dedicated to mental health included two articles on alcohol: one with a regional analysis of the burden related to alcohol consumption, "Alcohol consumption and burden of disease of the Americas: implications for alcohol policy" (Rehm and Monteiro, 2005), and another on alcohol policies "Evidence-based alcohol policy in the Americas: strengths, weaknesses, and future challenges" (Babor and Caetano 2005).

In 2006, the unit on *Alcohol and Substance Abuse* PAHO supported Red Salud (<http://comminit.com/la/redsaud/>), a network of over 700 journalists and editors from Latin America, aimed at improving health communication related to alcohol issues in the media. There was a period dedicated to the discussion of alcohol from a public health perspective, and at the end of the year, an award for the best works on the topic was given to journalists from Mexico, Uruguay and Colombia (II Premio Iberoamericano de Periodismo en Salud). The unit also supported a meeting of NGOs in Santos, Brazil (September 6th, 2005), aimed at discussing what they can do to promote changes on alcohol policies at all levels.

These areas of existing work that the PAHO is undertaking should provide support for countries looking to use an alcohol strategy to address alcohol related harm in their populations. PAHO is also able to take on a coordinating role in relation to alcohol-related harm in the Region and to provide technical support to assist countries in the Region to put in place the recommendations in this document and supported by a resolution of its Directing Council.

Conclusion

The information in this report can be used to raise awareness about the need to assess the extent of alcohol consumption and related harms at country and regional levels and plan the allocation of resources for the implementation and evaluation of the most cost-effective strategies, considering the realities of each country, societal norms and levels of understanding about the impact of alcohol on individuals and populations.

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Brasilia Declaration on Alcohol Public Policies

The participants of the First Pan American Conference on Alcohol Public Policies held in Brasilia, Brazil, November 28th-30th 2005 are:

Alarmed that alcohol is the leading risk factor for the burden of disease in the Americas and that alcohol-related harms have been neglected in the Region;

Recalling and reaffirming the World Health Assembly Resolution (WHA) 58.26 of the World Health Organization, which urges Member States to develop, implement and evaluate effective strategies and programs for reducing the negative health and social consequences of the harmful use of alcohol;

Recognizing that scientific evidence has established that hazardous and harmful consumption of alcohol causes premature death, disease and disability;

Concerned that in many countries there is significant unrecorded alcohol consumption, and recorded production and consumption of alcohol is at high and rising levels;

Recognizing that the harm done by alcohol is a national and regional public health and social problem in the Americas, despite the cultural differences between the nations;

Recognizing that alcohol is also a cause of violent deaths, intentional and unintentional injuries, particularly among youth;

Noting that alcohol is also a cause of death, disability and social harm to people other than the drinker;

Aware that the studies that exist on the costs of alcohol use suggest that alcohol problems create heavy economic as well as health and social burdens;

Concerned that alcohol interacts with poverty to produce even greater consequences for those who do not have access to basic resources for health and sustenance;

Concerned that indigenous populations, migrants, street children and other highly vulnerable populations in the Americas suffer disproportionately from the negative impacts of alcohol;

Emphasizing the risk of harm due to alcohol consumption during pregnancy;

Recognizing the threats posed to public health by the increased availability and accessibility of alcoholic beverages in many countries in the Americas;

Concerned that alcohol advertising, promotion and sponsorship are reaching young people, thereby undercutting efforts to reduce and prevent underage alcohol use;

Mindful of existing compelling evidence on the effectiveness of strategies and measures aimed at reducing alcohol consumption and related harm;

Recognizing that the approaches related to harmful consumption of alcohol should include different models and strategies for the reduction of social and health harms;

Recognizing that international cooperation and participation of all countries in the Region are needed to reduce the negative health and social consequences of alcohol consumption;

We recommend that:

1. Preventing and reducing alcohol consumption-related harms be considered a public health priority for action in all countries of the Americas.
2. Regional and national strategies be developed, incorporating culturally-appropriate evidence-based approaches to reduce alcohol consumption-related harm.
3. These strategies are supported by improved information systems and further scientific studies on the impact of

alcohol and the effects of alcohol policies in the national and cultural contexts of the countries in the Americas.

4. A regional network of national counterparts, nominated by the Member States of the Americas, is established with the technical cooperation and support of the Pan American Health Organization, to work towards the reduction of alcohol related harms.
5. Alcohol policies whose effectiveness has been established by scientific research are implemented and evaluated in all countries of the Americas.
6. Priority areas of action need to include: heavy drinking occasions, overall alcohol consumption, women (including pregnant women), indigenous peoples, youth, other vulnerable populations, violence, intentional and unintentional injuries, underage drinking and alcohol use disorders.

Fifty-eighth World Health Assembly WHA58.26

Agenda item 13.14 25 May 2005

Public health problems caused by harmful use of alcohol

The Fifty-eighth World Health Assembly,

Reaffirming resolutions WHA32.40 on development of the WHO program on alcohol-related problems, WHA36.12 on alcohol consumption and alcohol-related problems: development of national policies and programs, WHA42.20 on prevention and control of drug and alcohol abuse, WHA55.10 on mental health: responding to the call for action, WHA57.10 on road safety and health, WHA57.16 on health promotion and healthy lifestyles and WHA57.17 on the Global Strategy on Diet, Physical Activity and Health;

Recalling The world health report 2002,⁸ which indicated that 4% of the burden of disease and 3.2% of all deaths globally are attributed to alcohol, and that alcohol is the foremost risk to health in low-mortality developing countries and the third in developed countries;

Recognizing that the patterns, context and overall level of alcohol consumption influence the health of the population as a whole, and that harmful drinking is among the foremost underlying causes of disease, injury, violence – especially domestic violence against women and children – disability, social problems and premature deaths, is associated with mental ill-health, has a serious impact on human welfare affecting individuals, families, communities and society as a whole, and contributes to social and health inequalities;

Emphasizing the risk of harm due to alcohol consumption, particularly, in the context of driving a vehicle, at the workplace and during pregnancy;

Alarmed by the extent of public health problems associated with harmful consumption of alcohol and the trends in hazardous drinking, particularly among young people, in many Member States;

Recognizing that intoxication with alcohol is associated with high-risk behaviours, including the use of other psychoactive substances and unsafe sex;

Concerned about the economic loss to society resulting from harmful alcohol consumption, including costs to the health services, social welfare and criminal justice systems, lost productivity and reduced economic development.

Recognizing the threats posed to public health by the factors that have given rise to increasing availability and accessibility of alcoholic beverages in some Member States;

Noting the growing body of evidence of the effectiveness of strategies and measures aimed at reducing alcohol-related harm;

Mindful that individuals should be empowered to make positive, life-changing decisions for themselves on matters such as consumption of alcohol;

Taking due consideration of the religious and cultural sensitivities of a considerable number of Member States with regard to consumption of alcohol, and emphasizing that use of the word "harmful" in this resolution refers only to public-health effects of alcohol consumption, without prejudice to religious beliefs and cultural norms in any way,

1. REQUESTS Member States:

(1) to develop, implement and evaluate effective strategies and programmes for reducing the negative health and social consequences of harmful use of alcohol;

⁸ The world health report 2002. Reducing risks, promoting healthy life. Geneva, World Health Organization, 2002.

(2) to encourage mobilization and active and appropriate engagement of all concerned social and economic groups, including scientific, professional, nongovernmental and voluntary bodies, the private sector, civil society and industry associations, in reducing harmful use of alcohol;

(3) to support the work requested of the Director-General below, including, if necessary, through voluntary contributions by interested Member States;

2. REQUESTS the Director-General:

(1) to strengthen the Secretariat's capacity to provide support to Member States in

monitoring alcohol-related harm and to reinforce the scientific and empirical evidence of effectiveness of policies;

(2) to consider intensifying international cooperation in reducing public health problems caused by the harmful use of alcohol and to mobilize the necessary support at global and regional levels;

(3) to consider also conducting further scientific studies pertaining to different aspects of possible impact of alcohol consumption on public health;

(4) to report to the Sixtieth World Health Assembly on evidence-based strategies and

interventions to reduce alcohol-related harm, including a comprehensive assessment of public health problems caused by harmful use of alcohol;

(5) to draw up recommendations for effective policies and interventions to reduce alcohol related harm and to develop technical tools that will support Member States in implementing and evaluating recommended strategies and programs;

(6) to strengthen global and regional information systems through further collection and analysis of data on alcohol consumption and its health and social consequences, providing technical support to Member States and promoting research where such data are not available;

(7) to promote and support global and regional activities aimed at identifying and managing alcohol-use disorders in health-care settings and enhancing the capacity of health-care professionals to address problems of their patients associated with harmful patterns of alcohol consumption;

(8) to collaborate with Member States, intergovernmental organizations, health professionals, nongovernmental organizations and other relevant stakeholders to promote the implementation of effective policies and programs to reduce harmful alcohol consumption;

(9) to organize open consultations with representatives of industry and agriculture and trade sectors of alcoholic beverages in order to limit the health impact of harmful alcohol consumption;

(10) to report through the Executive Board to the Sixtieth World Health Assembly on progress made in implementation of this resolution.

Ninth plenary meeting, 25 May 2005

A58/VR/9

NOTES

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ALCOHOL AND PUBLIC HEALTH IN THE AMERICAS: A CASE FOR ACTION

Current evidence shows that alcohol consumption and drinking patterns in the Americas are at harmful levels, with statistics from the region surpassing global averages for many alcohol related problems. Numerous public health policies are proven to be cost-effective and are acceptable and supported by the public, once they are well informed about the risks related to their drinking, how their drinking is influenced by public policies and pressures from marketing and promotion of drinking, and when they learn about the benefits of each policy option. This document explains why action is needed now, what can be done and how, if we want to improve the health of all people in the Americas.



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